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Original Articles.

TRAUMATISMS AND MALFORMATIONS OF THE FEMALE GENITAL APPARATUS, AND THEIR RELATION TO INSANITY.*

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In writing this paper it occurred to me that instead of using the small amount of evidence in my possession to emphasize facts already adduced, an expression of opinion by the alienists and gynecologists of this country and an analysis of their views might aid in reaching a true consensus of medical opinion upon the subject. Accordingly I addressed a number of letters to the superintendents of insane asylums in the United States, and the members of two of the most prominent gyneco- gical societies, in which I requested replies to the llowing questions:

1. Do you regard malformations and traumatisms of the female genital apparatus as causes of insanity?

2. If so, in what per cent. of this class of cases, in whom physical examinations of the genitals have been made with the view of ascertaining the facts, can insan- y be ascribed to these causes?

3. Please state character of malformations and traumatisms, and if any operations were done for their ief..

4. Please state the form of insanity, including hys- eromania and nymphomania.

5. Please state if there were any hereditary tendencies to insanity.

6. *Please state results of operations done for relief* of malformations and traumatisms.

7. Please give the impressions you have received along this line.

These letters were so framed as to offer a free opportunity for the alienists to make negative replies. Much to *my surprise, however,* they have replied in a much larger percentage than the gynecologists, and their answers have been more uniformly affirmative. A few years ago they stood in solid phalanx, bidding defiance to the surgeons and as vehemently denouncing them as in the days of 1864, when Storer, a man many years ahead of his brethren, was denounced with the extreme bitterness *known only to members of a sect who feel that in* their hopeless and helpless condition, they are being driven to newer things by outsiders who possess no knowledge of their art. Storer made his observations from the standpoint of a far-seeing surgeon; he believed that woman's disease in such circumstances was like a mill-stone around the neck of a drowning person; that it keeps them down, and is a barrier which prevents them from rising above the stigma of a diseased mind. He was right, but the alienists opposed his advanced views and held the insane woman in bondage for thirty long years, until, thanks to Milton, Rohé, Hobbs, and others, the constant lashing with facts, scientifically applied, *whipped them into line so* that now they are about to take the subject-matter from the gynecologist's hands. In this way they may have a right, for their opportunities for observing the insane are many times greater than those of the latter, who occasionally meet with cases.

To *the letters sent out there were twelve negative* replies; one alienist simply and emphatically says "No." Another adds that he has never seen an insane woman operated on who has recovered. A rectal surgeon replies, "I do not," but perhaps he never sees the female genital organs except through the rectum.

Drs. McMurtry, Pratt, Fry, Cumston, and Hill are discouraging, the first-named thinks that entirely too much prominence is given to the subject. Dr. Maury, of Memphis, is more decided in his views. He has operated a number of times, but can not recall a case of mental recovery, and stated that his cases of surgical traumatism showed evidence of previous insanity. *Wishing to get at the facts of the subject, I requested* him to write more fully of his cases, which he did, and the letter appears in the tabulated report.

Dr. Cartledge replies: "Briefly, I should say that, except the curable mania frequently accompanying interstitial fibroids of the uterus and which are so often manifest near the menopause, I do not regard diseases in this locality directly a cause of insanity."

From the above statement he evidently does regard these tumors as direct causes, and in this he differs from most opinions. They seem to act in an indirect manner, impairing the general health. This class of tumors is more often associated with insanity, but it is not due to the particular variety of tumor. It is the effect produced upon the uterus, by exciting increased growth of that organ, by keeping it in a state of chronic irritation, engorgement, etc., thus intensifying the nervous phenomena usually arising from the womb. Any other tumor that could develop in the wall of the uterus would *be followed by the same results; for instance,* myomata are not infrequently found to act in the same way.

All but one of the asylum reports are favorable. Some superintendents answer very positively "yes" to the first question, others consider that malformations and traumatisms occasionally are direct or sole causes in a small percentage of cases, but all seem to believe they are exciting or contributing causes, which affect the general health.

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A few gynecologists do not hesitate to state they regard them as causes. Among these are W. L. Robinson, Geo. F. Hulbert, Joseph Price, E. F. Fish, E. H. Hyde, G. M. Hughes, J. F. Baldwin, Edward French and others. Some of these consider them to be causes in a small percentage of cases, but the most of them make no qualifications.

Among those who believe them to be exciting and contributing causes or an aid in development of insanity, are R. T. Morris, Walter B. Chase, Bovée, H. M. Hunter, I. S. Stone, Manton, Rohé (recent writings), Hobbs, Humiston, Sherwood-Dunn, F. Blume, Carstens, Moses J. White, Edward Walker and others. This last class is composed of men who do not believe that malformations and traumatisms act as causes, except indirectly, by depressing the general health.

These letters show the views of an array of thinking men whose opinions should demand the confidence of the people. Such a number coming with common consent tells us that no longer can traumatisms and diseases of the female genital apparatus be ignored in the treatment of the insane. Indeed it has been shown that these women do suffer these misfortunes, that they impair the health and indirectly influence the mind in a certain percentage of cases. Then why should they be denied the means of relief? On what grounds can it be prevented? Certainly not on that of injury, for we are told that chronic insanity is not made worse by operation, but upon the other hand, that the patients all gain bodily relief, and 23.52 per cent. recover their minds, and 17.64 per cent. are improved. Hobbs' percentages are higher than this.

The reason why the alienists now support these views and accept gynecology as an indispensable aid in their work is that they have had their eyes opened to the fact that the gynecologist does not operate for insanity, but in pleading for attention to bodily discomforts. On these grounds they meet their fellow-men in suffering and pain. According to the reports received, the percentage of cases to which insanity is ascribed is small. Price, on the contrary, states that it is very large. He is supported by insane-asylum reports, which give from 11 to 20 per cent. I wish to point out as a notable exception, the Buffalo State Hospital for the Insane. Dr. Frederick states that he is informed by the female resident physician that she has never found any malformations nor traumatisms in patients admitted to that institution. The East Michigan Hospital for the Insane has found 81 per cent. suffering from some pathological condition calling for attention; but perhaps in the latter institution a more thorough and methodical system of examination has been in vogue as the subject has been well in hand for several years.

In answer to the third question, relative to the form of malformations, diseases and injuries to the female genital canal, accidents incident to childbearing seemed to occur most often, next infection and preputial adhesions; masturbation and puerperal insanity are recorded as commonly found. The remarkably large proportion of good results from operations is a striking feature even in cases of chronic mania. A few instances are given with no results, but such may be expected when the best success does not exceed 40 per cent. of cures and 26 to 30 per cent. of improvement. One is likely to meet with all failures when he does only a limited number of operations. It is not denied, however, that patients are relieved of physical suffering and distress. Absence of vagina, uterus and ovaries is mentioned several times. I have noticed in my own work that palpable external deformities are more frequently associated with insanity than deformities of the internal genitalia. One woman became melancholic and required institutional treatment on account of absence of the vagina. Before she was mentally affected, she claimed that it was not on her account she wanted a vagina established, as she enjoyed the orgasm sufficiently, but on account of her husband. He was opposed to the operation on the grounds of the danger, but she suspected him of regarding it as a sort of free license for making visits to other women. This seemed to wear on her mind until she became melancholic. Another woman came to me from South Carolina, who had had an occluded vagina for twenty-six years, and eventually became unbalanced. The form of insanity was first confusional delusions and then melancholia. She was completely relieved in a few weeks after the vagina had been re-established by a flap operation, and as soon as she could understand that it was a success, her mind improved with remarkable rapidity. A young woman with a partially developed vagina sought relief, hoping thereby to bring her husband back to her. She was melancholic but recovered after operation on the vagina.

Obstetric lacerations are very potent factors for evil and should not be neglected. The general practitioner and obstetrician should make careful search for injuries of this character, especially in women bearing the stigmata of degeneration or a hereditary tendency to insanity.

Simple displacements of the uterus play a considerable rôle as a contributing factor; this is due perhaps to the fact that many women are subjects of these accidents and therefore that more with hereditary tendencies must necessarily be encountered. Often it is hard to realize that a simple displacement can have such an effect, but when immediate recovery follows replacement, as I have seen, we are constrained to ascribe it to some contributing influence.

While I have never observed any mental derangement in cases of uterus bicornis, uterus didelphys, uterus duplex, etc., Clarke, of Cambridge, mentions these malformations in his letter. My patients with multiplicity of pelvic organs regard themselves as freaks of nature, and express satisfaction thereat, while those with defective development, prohibiting intercourse, are caused domestic trouble and much unhappiness. With one exception those of the latter class became insane.

Gynecologists are divided on the question of heredity. No less an authority than Price says: "Heredity is rare." Gresham H. Hill, D. S. Moon, and George L. Kirby, of insane institutions, put the heredity at a high figure, ranging from 20 to 23 per cent. Hill says that one-third of the women admitted to the hospital have some hereditary tendency, and nearly all who are suffering with disease of the reproductive organs are so affected. T. O. Powell, of Georgia, and others, say it is about as much one way as the other, while other alienists claim that some bad heredity, either insanity, alcoholism, or some kindred condition, must exist, hysteria excepted.

The alienists perhaps are entitled to first credit as being men of a habit calculated to draw out these points, as they see far more cases than gynecologists. So it seems that a bad heredity, degeneracy, or a ne rotic family history, is common to many of these patients.

No particular form of insanity follows these lesions. Simple mania, delusions, kleptomania, confusional delusions, nymphomania, hysteromania and melancholia have all been met with; the last three, increasing in the order named, are the most frequent. I have believed nymphomania a comparatively rare disease, but these letters show a surprisingly large number of cases. Preputial adhesions are regarded as the exciting cause, and cures are reported after separation of the adhesions. However, it is not invariably successful, as a few become hopelessly insane. The largest number of cases seem to come from melancholiacs and nymphomaniacs, and here too the best results are found. Carstens does not operate for hysteria pure and simple. Hystero-epilepsy is mentioned by a few writers, but no particular lesion is given. I have found it more often associated with displacements of the uterus, and rarely attributable to disease of the appendages. This perhaps is a digression, but as it pertains to the nervous demonstration of uterine diseases, it is mentioned.

Manton says: "If disease of the reproductive organs is included, I have seen and operated on quite a number of cases of hysteromania and nymphomania, which were cured or greatly relieved by the removal of diseased ovaries. I cannot say that I have ever seen a case of insanity, mania, melancholia, etc., cured by such operative treatment, but relief has often followed. Hysterical conditions have generally been cured."

Here he strikes the key-note and it is hoped that it will have its influence on the needles, and unscientific removal of the uterine appendages except for the relief of local disease with exhaustion psychosis. Patients who retain normal ovaries suffer less nervous perturbation and psychical symptoms. Hysterical conditions are more often found in traumatisms and diseases affecting the uterus. They may seriously hamper the treatment of the diseased mind and demand attention.

With very few exceptions the writers give glowing accounts of their results. R. T. Morris says: "In properly selected cases apparently due to peripheral irritation in patients without marked hereditary tendencies, and without family-acquired neurotic habits, the results of operations have often been striking."

Doubtless following these precepts will result in brilliant achievements as far as mental recoveries are concerned, and if it were right to operate only for the effect upon the mind, it might be well to select the cases, but it will work hardships upon the mentally incurable to condemn them to continual suffering of physical pain. We operate upon bodily disease in the mentally sound and promise them nothing but bodily relief, why, therefore, should we promise more to the insane when identically the same things are done? We should observe the marked conservatism displayed by Manton and Hobbs, and operate only for local disease and somatic pain; then if mental relief is afforded, as it surely is in a large percentage of cases, more will have been achieved than was promised.

All operators, with three exceptions, no matter what forms or stages of insanity exist, say that the results upon the mind are good, very good, satisfactory, very satisfactory, beautiful, improvement in all, improvement in about half the cases, none made worse, etc., while three, notably Dr. Maury, of Memphis, report no benefit in any of their cases. These gentlemen were unfortunate in having to deal with a few incurables, and doubtless will fare better in the future, as the percentage of cures is estimated at about 38 per cent., improvement 33 per cent., mortality 2.5 per cent. (Hobbs). They should therefore get good results in two out of three cases. Though there was no mental improvement in the cases reported by these gentlemen, they do not deny the relief of pelvic pain; their work was successful from the standpoint of cures of local troubles.

Thus there is a brilliancy in the work unlooked for, and a natural tendency to promise too much to family and friends. One should therefore ever keep before him the remarks of a distinguished surgeon[1]: "Indeed, so frequently have the mental manifestations undergone a decided change for the better that I have now come to look for this almost as certainly as for recovery from the operation," and then adds, "I have never yet seen a patient entirely relieved of her mental disorder as the result of operative treatment."

While a few think that little is to be accomplished by surgical treatment beyond the relief of somatic pain, the great majority believe that it is the physician's duty to examine every insane woman for disease of the pelvic organs and to remedy traumatisms, malformations, and treat inflammatory troubles; that while only one-third, or a little more, receive mental cures, another third gain some relief; as a rule all are benefited locally.

Price says that it has been necessary to remove patients from insane institutions in order to cure them, intimating that the surroundings have a bad effect mentally. He further states that many cases should never have been sent to such places. It is believed that pelvic disease acts indirectly upon the mind, that there are also other powerful factors at work which have great influence, notably heredity, yet in a very large percentage of the letters it is claimed that heredity does not necessarily take part in the causation of insanity. Peripheral irritations and depression of the general health are the ideas as to causation held by the larger number. In inflammatory diseases the percentage of insanity is greater, and this is due, in all probability, to absorption of toxins, not necessarily to pus or pus-producing agents.

Continued elevation of temperature, even of slight degree—one-half to one degree—for months is an active factor, especially when associated with large fibroid tumors. I have observed this when there was nothing to account for the fever but the presence of and the irritation caused by the tumors. In such cases the temperature will occasionally drop to normal on removal of the tumors, and if it again reappear will persist for a day or so only; the insanity disappears with the normal, and reappears with the abnormal temperature, and finally cure results when the fever is ended.

Removal of the normal ovaries in the insane as well as in the sane woman is condemned as not only unproductive of good, but as a factor for serious evil. Dr. David T. Gilliam, however, believes "in removing the essential organs of generation from an insane woman during the child-bearing period, upon the broad principle that the world should not be peopled by the progeny of such, both for the sake of the offspring and the world at large." I presume that as the word "insane" is used without modification he intends it to be applied only to the incurable. Robert T. Morris says: "In insane asylums and institutions for the cure of drug habitués there is regularly a percentage of cases that are completely curable by operation. My impression, amounting to a conviction, based upon careful observation, is that patients curable by operation are not apt to be comprehended, are often never examined, and further, that a vista of enlightenment is just beginning to open for men who should be, for the best interests of their patients, in insane asylums and institutions for the cure of drug habitués."

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[1] Manton.

Dr. Van de Veer said, when asked his impression: "Try some operation in every case." He does not believe that traumatisms and malformations contribute to insanity, but the good effects of operations have not escaped his eye. A few others who are not prepared to acknowledge any connection as etiological factors, do not deny the benefits that have been accomplished by surgery. It is a mistake to carry the principle announced by Dr. Van de Veer too far, for fear of encroaching upon the grounds of empiricism, by removal of normal organs. The latter, as stated, is to be deplored. He surely did not intend that his statement should be spread as a blanket alike over ills, real and imaginary.

Very little is said in reference to post-operative insanity. It is mentioned, under the head of surgical traumatisms, but the impression is that they are more often temporary melancholia or hysteria, and that they usually occur in predisposed subjects or in the puerperal state; the latter being influenced in many cases by septic infection. In one case I operated on, in the second week of the puerperium, for complete tear of the perineum, the insanity did not appear until after she had fully recovered from the operation and attempted to take bodily exercise. I was informed that she lost an excessive amount of blood at her confinement, which must have been true, as she was almost exsanguinated when I saw her. In this case there was no sepsis, but extreme anemia, which did not show its bad effect upon the brain until she assumed the upright position. Her recovery was prompt and kept pace with the increase in red blood-corpuscles and hemoglobin. In this case the operation had nothing whatever to do with the cause of the insanity, but if it had not been done, I believe the bad effect of the complete laceration and involuntary evacuation from the rectum would have produced, in connection with the anemia, a very pronounced mental disturbance.

I have noticed that the violent post-operative nervous changes following hysterectomy are more apt to occur in women whose wombs have grown to a large size. Patients with pedunculated fibroids and small wombs are not apt to suffer in this way. The nearest to an exception to this proposition in my experience was a case of carcinoma of the fundus uteri, in which the womb was about six times its normal size. Although of a very neurotic family, the patient made a good recovery, but succeeded in nearly worrying the life out of her physician and family for eighteen months before showing any signs of improvement. Another strange feature is that insanity existing before the removal of these tumors is often instantly relieved, while, on the other hand, insanity following the operation may be weeks or months developing.

Dr. J. F. Baldwin says: "Occasionally insane cases are made worse by operative interference." Manton claims they are not: and others speak as though operations are not to be feared in these subjects.

Hobbs' impressions are: "Organic lesions of the inflammatory type are the most prominent factors among pelvic diseases in exciting mental alienation, and displaced organs rank next in importance, and tumors last in the order of causation." . . . "that neglect of gynecic surgery in any institution for the treatment of the insane is a serious omission, as where so many women are congregated together there must exist many cases of unsuspected, and, if not investigated, untreated, forms of pelvic disease."

The gynecologist is to-day curing cases of nerve exhaustion or neurasthenia in which the neurologists have failed, by correcting pelvic lesions in addition to the general treatment. We know that the gynecologist repairs injuries, replaces organs, removes septic centers, and couples with them rest and seclusion, with the best results. In many of these cases the neurologist, from prejudice or lack of skill, fails to recognize the disease in the pelvis. I have in mind a patient with grave hysteria and neurasthenia who suffered many things of many men and at last fell into the hands of a neurologist, who declared, after a most careful examination, that she had no pelvic disease. He failed utterly, but fortunately her uterine displacement was recognized by another man, and immediate relief followed his treatment.

We know that cure of disease of the female genital organs is a most valuable and essential aid in the treatment of many nervous troubles in the sane woman; why therefore, have we the right to deny insane women the privilege her more fortunate sister receives?

THE CAUSAL RELATION INTRA-ABDOMINAL DISEASES BEAR TO NERVOUS DISTURBANCES RECOGNIZED BY GYNECOLOGISTS, IGNORED BY NEUROLOGISTS.

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Perhaps the most difficult of subjects for the master to teach or the student to master are the reflexes of the nervous system and their influence upon the functions of the various organs. In a certain sense are we not yet students?

That all-pervading, ever-acting force that from infancy to old age should hold in stable equilibrium the harmonic rhythm of the individual, for want of a better term we may designate "vital." This life power we know has its definite limitations, although, as one forecasts the future of the individual, he is aware that it must be expressed in the unknown terms of the algebraic formula "x+y" or "x—y." If in health it is so difficult to graduate and measure the possibilities of the individual or determine his daily perturbations within the limit of normal function, how much more abstruse is the problem to detect and to judge aright the pathologic, which it is a part of the daily duty of the conscientious physician to take into careful consideration!

These problems are as old as the mental development of man, and have been coincident with history. F generation views them with new interest, and it is ve probable that certain of their most abstruse factors will remain unsettled as long as modifying conditions and influences produce such infinite kaleidoscopic variatio

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in man's development. Science brings about marvelous changes, and we speedily learn to look with equanimity on the acceptance of a new truth, although at variance with our earlier teaching. At a not remote period, heat, light and electricity were looked on as independent and non-convertible forces. He who gave us the key to the transmutation at will of one force into three different forms of physical energy opened the gate into a highway leading to new development; energies coexistent with the life of the planet, but harnessed anew for a higher civilization, the possibilities of which no man may yet estimate.

This individual, vital energy which we call life, has an existence in kind throughout the entire animal kingdom. To man is given, although not exclusively, but in a much greater degree, the power of transmutation of physical force into mentality and that higher efflorescence of its stable equilibrium—mortality—the soul life, the most intangible, the least understood, but in general acceptation, the one enduring factor of existence.

If the physiologic conditions which attend normal development are kept in proper equilibrium, the life machine which we call the body has extraordinary possibilities of energy, and one of the secrets of the largest outcome in its usefulness is the symmetry and correlation of its developing powers. Unduly stimulated, in a certain direction, we look on the brilliancy of this force in the exhibition of its powers as phenomenal and say this is genius. But encouraged too much in this direction we soon find that it may develop into an eccentricity, even an excrescence of character out of equilibrium, and become a positive, individual weakness. This may easily become pathologic, and our state prisons and asylums for the insane are filled with individuals who are sad illustrations of a force unbalanced, primarily due to deviations in mental acquirement.

If the basic, physical conditions become changed, it necessarily follows that greater or less perturbations will be manifested in the mental product. Here, fortunately, we have the guardianship and control incident to the earlier individual development, which project upon the lines of activity, certain influences which we call habits—in other words, doing an act because we have been trained to do it. An illustration: co-ordination of muscular movements, forms of thought, expressions of speech, etc., pertain, in large measure to, and are under the control of, the cerebral functions. These, again, must operate through certain avenues, the spinal nerves, their centers and ramifications, the sensory and other subordinate organs.

An individual in normal health may be defined as one in stable equilibrium between waste and repair, the organism as perfect as the day previous less the age of the machine, plus the product of possible mental and moral increment. Viewed from this standpoint, a defect in the equilibrium of physical forces lessens normally the life product. The reparative processes interfered with from even a temporary defective digestion and nutrition may so change the normal judicial equilibrium as to lessen the value of the opinion of the physician or the clerical adviser, as to influence the verdict of him who holds the life of the criminal in decision, or as to lose the battle to the general. If simple transitory perturbations of nervous or mental force are thus easily affected, what may we not expect when some one of these avenues of life force becomes permanently distorted? These are the wrecks that daily come under the supervision and care of some of us here gathered.

In the subdivision of our various labors, it is but natural that we view the objects through the media to which we are most accustomed. Thus the ophthalmologist, having so often traced the persistent headaches and mental discomfort incident to astigmatism, is likely to think that some visual error is the cause, and will perhaps demonstrate the truth of his opinion by the relief which follows the wearing of properly adjusted glasses.

The physician will weigh carefully the equilibrium between waste and repair, examine with care the digestive and assimilative organs and attribute, with much wisdom, certain defects to lack of nutrition, and to improper and irregular work of the various functions.

The careful student of mental diseases, who should be first a good physician and something more, may view with hopeless equanimity, conditions which he ascribes less to perverted than to ruined forces, and may condemn the individual to a passive restraint.

The surgeon, ever on the alert for some new interposing factor which may have disarranged the machine, seeks to find and remove, often with surprising results, the foreign element which is the cause of the perturbation.

The wise gynecologist should be the physician and something more, the surgeon and something more, since he has under careful consideration another set of organs in addition to those already under discussion, designed for the reproduction and perpetuity of the race. Here enters that subtle factor which has been called, "a normal and constant contribution of specific material by the reproductive glands to the blood or lymph and thus to the whole body." This recent physiologic theory, of so-called internal secretion is an abstruse subject indeed, but one that has been long recognized in one form or another.

The physiologic effects of healthy ovaries and the force which they exert through their correlated organs of reproduction dominate in large degree the individual during the greater period of life. At the recent meeting of the Maternal Congress of Mothers, Dr. Oscar Christman, professor in the State Normal School of Kansas, portrayed certain phases of their effects, although his topic was, "Science of Child Study." He attempts a sexual differentiation, but evidently from the study of effects, rather than of causes.

In the joint discussion which was held two years ago before this Section of the AMERICAN MEDICAL ASSOCIATION, much of importance and value was advanced. It was demonstrated that the leading neurologists were not forgetful that in woman they had a special subject of study in reference to their observations of nervous phenomena quite unlike those of men. Several gentlemen who took part in the debate were generous enough to accredit the gynecologist a service of the highest value which he has rendered by his contributions, demonstrating the relationship of sexual disease to nervous and mental phenomena.

For many years I have advocated the necessity of the study of pelvic and abdominal diseases among the insane and have urged the superintendents of different asylums to institute a careful methodical examination of every patient. Although this special phase of the subject is to be prominently brought before you by Dr. Carpenter, I can hardly do less than refer to one of the most valuable contributions yet offered upon this subject, by Dr. R. M. Bucke,[1] superintendent of the Asylum for the Insane at London, Ontario. It may be women eat for two. It is a matter of common observation that the healthy pregnant woman eats a great deal more than at any other time. While she is saved the elaboration of part of the food by the fetus, still her excretory organs are called on for double duty. If the fetus does not consume the extra amount that she has put into her blood, she has to dispose of it herself as best she can. In the vast majority of cases the first danger-signal which Nature gives us is trouble with the kidneys, but there are many cases of eclampsia in which the kidneys themselves are perfectly normal. These are exactly like the case of the horse that falls in the street. There has been more food put into the circulation than the mother and child combined can possibly dispose of. In those cases where kidney trouble appears, the kidneys have resented this extra amount of work, and in their weakened condition have allowed the germs to lodge. This most awful disease is very simple and easily understood when we think of it simply as a reproduction of what has occurred to the horse just mentioned.

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[1] President's Address before the American Medico-Psychological Association at St. Louis, May 10, 1898.

Why is it an impossibility for some women, no matter how they are fed or how they are taken care of, to have puerperal eclampsia? My answer is that all such people have a fine eliminative apparatus, and that no matter how much work is thrown on them, they are equal to the emergency. But we all know that the class of people called "gouty" have very poor excretory organs, and consequently allow these poisons to accumulate in their bodies, just as the horse does when standing in his stall.

Haig was on the right track in his analysis of the human family, and has proved beyond a doubt that these defective excretory organs are transmitted from father to son. This rule I have used in the analysis of my cases for years, and from the family history of patients, I can always tell you those who are likely to have nervous troubles from either delayed menstruation or the menopause. Time and again I have been struck with the similarity of symptoms presented by a young girl with delayed menstruation and a woman naturally passing through the change of life. In both cases it is the retention in the blood of material which Nature has stored up to feed the fetus, and no matter what prevents this material from being passed off in the natural way, the patient has a greater or less dose of poison.

As to what these poisons are, I can not yet tell you, for there certainly are a great many different ones. Dr. Rachford, of Cincinnati, has demonstrated that the xanthin bodies produce a great many violent symptoms, and that in menstrual epilepsy they are the specific poisons which produce it. It was very interesting to watch the toxic effect, on mice and guinea-pigs, of this poison obtained from the most severe case of menstrual epilepsy I ever treated. The symptoms were identically the same as those in the patient. Dr. Rachford is still working on the subject, and I hope that we will not only find exactly what these poisons are, but that with this knowledge, we may find a quick way of getting rid of them. His work has been confined to the nitrogenous group, and clinically, I think that is principally at fault. In addition to the presence of paraxanthin, I believe there are a number of the other xanthin bodies which have a great deal to do with it. We now know that xanthin has a great deal to do with rheumatism, and I have cured one case of rheumatism by trachelorrhaphy. The patient had had rheumatism ever since the birth of her youngest child, then two years old. Her joints were crippled, and one knee was especially enlarged and tender. Since the accident she had had intervals of five and six weeks between menstruations. I performed trachelorrhaphy without thinking that it might have any effect on the rheumatism, but, to my great surprise, when she got out of bed, all of her joints were well, and have remained so up to this time, four years after the operation. She was of a markedly gouty diathesis. The injury to the uterus had not only disturbed its time-lock, so that menstruations were delayed and not more than ten a year, when there should have been thirteen, but the inflammation of the organ was so great that menstruation could not be full and free. Not only the thickening of the tissues themselves caused by the invasion of germs, but the chemical action of the ptomains produced by these germs, so changed the blood that the proper amount of elimination was interfered with, thus leaving in the blood many of the nitrogenous bodies which should have been eliminated.

I have had many other cases along the same lines. The repair of an injury or the cure of an inflammation of the pelvis does a great deal to regulate menstruation, and with this regulation comes the relief of headache, migrain, neuralgia, and all the other nervous symptoms. This relief is often assisted by the removal of scar tissue at the time of the operation, but this scar tissue could not cause the general systemic disturbances which most of these patients have. The relief comes gradually in most of these cases, and while each successive menstruation is better and better, still perfect relief does not come for from six months to a year after the operation. This proves to me, in the light of our present knowledge, that the relief is due to the draining of the system of accumulated poisons by perfect menstruation. An ordinary catarrhal endometritis causes many of these systemic symptoms, and, relief does not come immediately after the curetting necessary to cure it, but follows the same rule as the operations I have just mentioned.

I am sure that the majority of nervous symptoms of gynecologic subjects are due to the retained excretions which defective menstruation has failed to eliminate. Another great cause of retention of secretion is the intestinal infection which accompanies nearly all these cases. Given a pelvic lesion which interferes with the menstruation, the reflex wave of the blood-pressure necessary to produce menstruation takes out its force on the intestinal canal, the solar plexus and the other nervous apparatus of the abdomen. This results in a congestion of the whole portal system. Congestion once established, even though it be for only a few days, allows the omnipresent colon bacillus to lodge in the lining membrane of the intestines, both large and small, so that by the time the next menstruation comes on there has been precedent congestion of a part, or the whole of the alimentary tract. The next period is still interfered with by the same lesion, and the blood has not only the ordinary fetal food to get rid of, but also the ptomains which it has taken up from this irritated intestine. The temporary paralysis comes on again, the liver is called on for double duty, and with this vicious circle once established, it is no wonder that by-and-by the liver stops work. This accounts for the indigestion, constipation and general intestinal disturbances that always go with these cases. It also explains why it is that many women who are habitually constipated have a slight diarrhea during the menstrual week. For some reason the uterus has failed to eliminate as it should, and the liver takes up the compensatory work. The older gynecologists found out clinically that these cases did better under free purgation, but now we know the reason for it, and the man who watches the digestive organs carefully will always get the best results.

So far I have been dealing with the nitrogenous compounds, but the starchy foods are also capable of a great deal of mischief. When they are not burned up and converted into carbonic acid and eliminated as they should be, there results the most toxic of their products, oxalate of lime. This substance is troublesome; the symptoms which it produces when left in the circulation are manifold. It is not a trifling symptom, and should always receive due attention from gynecologists.

Nature has one other method of dealing with the starchy foods which has not received its full amount of attention, namely, storing it up in the tissues in the shape of fat. The "hotel anemia" that we are now hearing so much about has as one of its elements this very point of the storing up of fat in the tissues. These lazy, wealthy women, who are not willing to take their share of the troubles of life, and want freedom from care, and all the luxuries without any exertion, either physical or mental, are the ones about whom I speak. Like the goose in preparation for *paté de fois gras,* they are content to do absolutely nothing. In this way not only do their muscles run down, but their hearts become so extremely weak that they are no longer capable of getting up a good menstrual wave. Consequently there is little or no elimination of any kind. They are not only poisoning themselves all the time by the nitrogenous group which we have just been talking about—whence come their neuralgias—but they are not taking exercise enough to burn up the fats. Nature does the best she can under bad circumstances, and stores this up in the form of the obesity which is so commonly seen. This accumulation of flesh is sometimes seen in active women, but they are generally the patients with infantile uteri who have never had a proper menstrual wave, so that the surplus which should have been eliminated by the menstrual wave is left in their tissues in the shape of fat. This also explains the transient fat deposited at the menopause. The hardening endometrium at the age of 45 is incapable of getting rid of all that should be eliminated, and a portion of it is stored up in the tissues; but after Nature has re-adjusted itself and the digestive organs have stopped elaborating the infant's food, this fat is re-absorbed, and the patients are restored to about the same appearance they had before the menopause.

It would be useless before this body to discuss therapeutics. When the main causes of the difficulties have been pointed out, their treatment can be easily indicated. The majority of the bad cases belong to gouty families, and for their management I must refer you to Haig and Dr. Rachford, on the leucomain poisons. Elimination is the key-note of their work. Exercise is only another form of elimination, as it forces a complete oxidation.

In closing let me say, though, that if I have impressed on you the fact that the child-bearing woman always carries a superabundance of food which, if not properly handled, becomes a violent poison in some cases, these few minutes have been well spent.

Study of Leprosy.—Drs. E. Ehlers, of Copenhagen, and Cahnheim, of Dresden, have completed their study of leprosy in Crete, undertaken at the request of Prince George, of Greece. They find the disease a mild type, with a tendency to recovery, favored by the climate, and not spreading. They personally examined nearly 300 cases and estimate the total number on the island at about 700. The authorities are planning a leprosorium on an island off the coast for rigorous isolation of all cases.

TUBO-OVARIAN ADHESIONS—THEIR REFLEXES.*

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The literature of inflammation of ovaries and Fallopian tubes and the resulting adhesions is copious. Wherever effusion is thrown out, organization of lymph may be expected and the binding of parts together results. The cause is usually complex, and recurring attacks may be anticipated. Each outbreak leaves similar exudates, which develop analagous formations, until the parts may be buried beneath the new-formed tissue. If this process is modified by only one attack of inflammation of moderate intensity, or several recurrences of slight severity, adhesions form of simpler nature, and peristalsis, muscular movements and postural influences will form bands, narrow or broad, between contiguous parts, according to the time elapsing after an attack. Hence pelvic adhesions involving the tubes and ovaries may be divided into two classes, the massive, intensely adherent form, whose removal requires great delicacy and strenuous effort, caused usually by severe chronic suppurative or intense inflammatory tubo-ovarian diseases, and another kind, where structural changes are less manifest, and the diseased organs more easily removed. The first class is readily diagnosed, the latter often requires careful elimination of all other possible causes of disease.

One form always causes a concentration of distress in the pelvis at the original seat of the disease; the other causes vague indefinite local manifestations, and by reflex effects causes insidious, but far-reaching, disturbances at foci removed from the first point at which inflammation was engendered. The first form is ordinarily of gonorrheal origin, the second results with equal certainty from old exanthematic adhesions of the appendages, caused by acute inflammations occurring during adolescence. The former threatens to destroy life suddenly; the latter renders life miserable from puberty to the menopause. Reflex manifestations are most prominently associated with the latter form of tubo-ovarian adhesions, and to this form this paper is especially directed. The literature of tubal and ovarian inflammation of this type is sparse and the diagnosis is difficult.

The pathology of tubo-ovarian adhesions, like that of other pelvic diseases, must follow, and not lead, in our conception of the truth relative to conditions and their direct and indirect sequences. Microscopically, the mucous surfaces of the fimbriæ are agglutinated upon themselves in a club-like mass, or, as is more common, the infundibulum of the tube is fastened to the ovary, as the boy's disc of wet leather is attached to the stone he wishes to raise by a string, and in this position the fimbriæ adhere, yielding only in places, so that the adhesions become of band or string-like character. As temporary adhesions occur normally at menstrual periods, it requires only slight inflammatory exudate to fasten the parts together inseparably. The rupture of small cysts may induce sufficient inflammation to give this effect, and the gross appearance of the disease under consideration is that of a cystic, cirrhotic ovary, with calcareous, sometimes marble-like concretions, the tubes not swollen, as is usually the case, and the uterus undergoing retrograde metamorphosis, if it be not infantile as a result of an exanthema. The guy-line adhesions of tubes to ovaries and the plastering of the fimbriated extremities of the tube to the ovary, or the formation of hematomatous club-shaped masses at the end of the tube, and still a coexistence of string-like adhesions from the ovary to the tube, or from either, to adjacent parts, make a formidable amount of mischief. But such tubes and ovaries are easily raised from their beds, and no such quarrying effort is required to deliver the diseased masses as is usually the case in chronic tubal and ovarian diseases.

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One important aspect of this subject is that the development of tubo-ovarian adhesions is never ushered in by severe symptoms. The pain borne by women at the menstrual periods is not so much increased, when small cysts rupture, as to give rise to suspicions of any serious trouble. The attack of mumps, measles or scarlet fever induces of itself such febrile disturbances and indiscriminate pains that in such cases it is not to be anticipated that the patient will ever after voluntarily allude to this period of her life, with any probability of giving a clear, consecutive history of cause and effect.

It seems probable that when tubercles form on the ovary and tube, the peritoneal attacks resulting therefrom leave a like result. The first indications of disease will be in the remote effects of these underlying causes, which effects act through the sympathetic system on distant organs, which we call "reflex." As it is hardly probable that the history of the case or the local symptoms will indicate the existence of the disease, and as the manifestations are the vague, uncertain expressions of nerve-exhaustion and disturbances of the vasomotor and sympathetic nerve-centers, as well as the higher nerve-centers, it is not strange that effects are considered to be causes and that patients are treated for hysteria, neurasthenia, nerve-strain, dyspepsia and various other lesser forms of enervation. But there is not a loss of will-power in this nerve expression. The outbreaks of nerve-storms at first center about the menstrual epochs, and only when these impressions have been long continued, do the attacks occur at other times.

These patients of nervous organization are never very strong, are subject to fainting-spells, have attacks in which they are motionless, can not talk, and still are conscious. They grow ill and are confined to the bed at intervals, even for weeks at a time. The reflex may involve the head, the stomach and the bowels, giving headache, nausea, constipation, alternating with diarrhea, or the surface of the body may be hyperesthetic, and various pains of neuralgic character may be suffered. Vaginismus and rectal spasms are often present, while eye-strain and nasal obstruction need to be eliminated, that the picture may be clear and distinct. From this description it is evident that great care must be exercised to discriminate between this form of disease and other psychic developments. Given this group of conditions, a careful examination under an anesthetic becomes necessary, and when local disease, such as enlargement of the ovary, with perhaps an infantile uterus, is discovered, and a diagnosis by exclusion reached, it is inferentially clear that radical measures must be used. It parallels the comparatively few cases where complete removal of ovarian disease cures certain mental disturbances, and if we have made a clear case, it proves that certain conditions in women simulating hysteria are due to gross ovarian disease. With enlarged ovaries filled with cysts, hematomata, calcareous masses, or olivary bodies, with small tubes united by string-like adhesions and an infantile uterus, chronic inflammation of the appendages, by inducing harmful adhesions, and a degeneration of ovarian stroma, and atrophy result, in all the reproductive organs. The ovary and tube become useless irritants, capable of much harm, either in inflammatory or reflex effects. If an ovum is thrown off, it must drop into the abdominal cavity, and at the very onset, the whole chain of the menstrual function is demoralized. But so long as the Fallopian tubes remain, the menstrual flow must be provoked, and the profound effects of this half-conceived function be perpetuated.

The adhesions are peculiar to this form of ovarian disease, being of the already described guy-line or band form, so that the rule of removal only when adhesions are pronounced, does not here hold good. But as this form of adhesion may be called reflex, and each hyperemic effect of the menstrual act congests and weights the tube, causing the lines fastening to the ovary to grow taut, or, at intervals, to pull on the adhesions with a jerky hitch, it is easily conceived how, in erectile tissue, such movements without difficulty excite, and finally disturb, nerve-centers. In neurasthenia, or hysteria, in women, chronic invalidism should make the physician carefully weigh the possibility of a concealed cause, and if gross ovarian disease exists with the symptoms recited, the disease is surgical, not medical.

This is a border-line condition, but it does exist, and its cure returns to usefulness an individual who can not engage in any vocation or social function, and who may vainly spend time and means seeking health. Structural disease of the uterine appendages causes insanity. Complete early removal of the diseased organ cures. It is no argument that the cases are considered rare, and that operation has failed to relieve. The exceptions again prove the rule and demand early interference. For the form of diseased appendages, where the reflex is so active and profound, and which is not sufficiently well emphasized and discussed in the available medical literature, but which occurs, and probably more frequently than appreciated, the only sure relief is early operation, ridding the system of diseased ovaries, adhesions and attenuated tubes. The nervous system will then quickly right itself and complete health be restored.

These cases are not so isolated as to be rare, but their pathology needs to be written and their histories to be taken at the bedside, that we may know their bearings.

It is well to emphasize the fact that tubo-ovarian adhesions occurring in the early years of a woman's life may, by reflex, as well as by direct, effects, give through insidious ways obscure nervous symptoms, and a great error will be made if from a lack of a discriminating diagnosis this disturbance is characterized as one where systemic forces alone, instead of local, are at fault. A clean removal of both appendages cures the patient, and a nervous wreck becomes a healthy, happy, useful being.

Yellow Fever at Pinar del Rio, Cuba.—A special order issued from the headquarters, Division of Cuba, July 27, 1900, directed a board of medical officers, consisting of Major William C. Gorgas, Medical Department, U. S. A.; Major Damaso T. Laine, Surgeon, U. S. Volunteers, and Major Marlborough C. Wyeth, Medical Department, U. S. A., to be convened in the office of the chief surgeon of the division at 10 a. m., Saturday, July 28, 1900, or as soon thereafter as practical, for the purpose of examining into the present outbreak of yellow fever among the troops stationed at Pinar del Rio barracks, determining why it was not properly diagnosed and proper measures taken to avoid the spread of the contagion, and to what extent, if any, the post-surgeon should be held responsible therefor, and to submit such recommendations as it may deem pertinent.

GALL-STONES AND DISEASES OF THE GALL-BLADDER AND NERVOUS SYMPTOMS RESULTING THEREFROM.*

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Gall-stones have been found in the bile-duct; in the intrahepatic cells; in adventitious sacs; situated between the hepatic ducts; beneath the ampullæ, and in different portions of the intestinal tract. In subjects of 50 years of age and over they are not infrequently the exciting cause of cancer of the liver and its ducts. Almost as frequently do they cause intestinal obstruction after having ulcerated through and into the duodenum. They are foreign bodies from the intrahepatic cells to the rectal pouch, and are the only foreign bodies in the human economy concerning which many physicians and fewer surgeons persist in teaching the very dangerous doctrine of "hands off" until the resulting death-rate becomes a reflection on our art, worthy of our most serious consideration. Infection coming from the intestinal tract, through the duodenal door opening into the liver by way of the common duct, along with the entering of the bacterium coli commune or pyogenic streptococcus, through the walls of the portal vein, with the shedding of the epithelium from the inner walls of the biliary ducts furnishing a nidus for calculi, are given as causes for the formation of gall-stones.

Gall-stones have passed per rectum during the administration of remedies, from the sugar pellet of one "pathy" to the large doses of olive-oil of another, which proves that its passage was purely coincident, nothing more. With gall-stones recognized early, surgical intervention is to be accomplished by a simple procedure seldom followed by any serious complications; while delayed operations bring complications that oftentimes cause the surgeon almost to wish that he had not been born. Under such circumstances he shoulders grave responsibilities that justly belong to others. If every subject suffering with gall-stones could have the severe attacks of biliary colic with his physician ten miles away, and with a hypodermic syringe working poorly, we should have more timely operations for gall-stones. The graver cases do not always have the acute attacks of colic of the severe jaundice, and yet they lose flesh and strength from the lack of bile that is so necessary to general nutrition and the continual disinfecting of the great body sewer.

Of the forty-six operations on the gall-bladder in private practice, the subjects suffered from peculiar nervous manifestations—peculiar for the reason that they did not know how best to describe them. The following selected case will illustrate fully:

Mrs. C., aged 36, widow, very intelligent, professional nurse, consulted the writer two years ago for a dull pain over the region of the gall-bladder. There were occasionally stools of color and consistency of putty. No morphia has ever been required for pain. She weighed 165 pounds. On examination I found tenderness over the region of the gall-bladder and, on account of a thick abdominal wall, the gall-bladder could be mapped out only with difficulty. Diagnosis: gall-stones. Operation refused. Last March she returned, having lost more than fifty pounds in weight during the previous six months. The skin and sclerotics were jaundiced, and the urine was rather highly colored. During the past two years she had followed her occupation with difficulty; suffered from loss of sleep, and her appetite was poor. There was periodic escape of bile into the intestines, as the stools would show. She was "nervous," as she expressed it, for the reason that she did not have sufficient strength, although until two years ago her health apparently had been perfect.

A cholecystotomy was made and fifty-three small calculi weighing 70 grs. were removed from the gall-bladder and the common duct, together with a dram of pus. The ducts were syringed out with warm water, after which the walls of the gall-bladder and distended upper end of the common duct were curetted gently and then washed out with warm water. A drainage-tube was left in for four days, when bile was flowing into the intestine. The recovery of this patient was most satisfactory. Bile has disappeared from the urine; the wound closed; her appetite is good, and she is rapidly gaining in flesh, while the long-continued nervous manifestations have disappeared.

That there are peculiar nervous manifestations, arising from the action of bile on the nervous system, in all cases in which the flow of bile is obstructed for a longer or shorter time, clinically I am well convinced. I am at a loss to explain the modus operandi, but it is probably nothing more nor less than exhaustion.

PREVALENCE OF GALL-STONES IN INSANE PATIENTS.

Brockbank says: "They occur very commonly in inmates of lunatic asylums, but their presence during life is not usually suspected." He also says that "lunatics are prone to catarrh of the bile-ducts," but offers no explanation. Beadles found in 18 post-mortems on female lunatics gall-stones in 50 per cent.; Snell in 500 females, 19.4 per cent; Warnock in 8 females, 50 per cent., and Goodal in 141 females, 20 per cent. The experiments of Brockbank dispose of the supposition that the so-called saline cholagogues have any solvent action on the gall-stones. Mayo Robson says, "When gall-stones have once formed, no medicine, so far as we know, can dissolve them or produce any material benefit except by way of palliation." Such is the opinion of Hans Kehr of Halberstadt, Germany, who has done more surgery of the liver and its ducts than any other operator.

The literature of the subject is very meager, but the field for future exploration is large. Cushny says in his book on the action of drugs: "Bile when given by the mouth does not cause any symptoms except those from the intestine and liver. When it is injected into the blood, however, it depresses the central nervous system and the heart-muscle, from its direct action on these organs, and decomposes the red cells of the blood. Muscles and nerves suspended in a solution of bile salts rapidly lose their irritability, and some unicellular organisms are also killed and dissolved by them. The poisonous constituent of the bile seems to be the salts of the bile acids, but several authors have stated that the pigment is also active."

"As a cholagogue it is without a rival, but no condition is known in which an increase of the bile secretion is indicated, for although it has been proposed to expel gall-stones by raising the pressure in the gall-ducts by cholagogues, it is found that when the pressure is only slightly increased, the secretion is arrested." He says further, "It is inconceivable that the small rise in pressure could force out an impacted gall-stone." Bile pressure is very low. In Warnock's 44 post-mortems, 43 had marked heart disease. This bears out Cushny in his statement: "When bile is injected into the blood, however, it depresses the central nervous system and the heart muscle from its direct action on these organs, and decomposes the red cells of the blood."

Following the cholecystotomies done by the writer, he, with Brooks F. Beebe, gave a clinical demonstration of calomel in 1/10 gr. doses by the mouth. In every instance the flow of bile was very materially increased; it poured out through the abdominal incision, saturating the dressings and a portion of the bed. A week or ten days later we would repeat the experiment, which was followed by the same results. Our conclusions were that calomel very materially increases the flow of bile after each administration. The results of these experiments were given to the Cincinnati Academy of Medicine soon after.

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Before closing, I wish to make a brief report of the following case handed me by Dr. David Riesman, of Philadelphia:

The patient is a professional man, about 30 years of age, whom I saw with Dr. L. W. Steinbach. For a number of years he has suffered from what might be called a chronic bilious state—impaired appetite, coated tongue, heavy breath, sluggish bowels, lack of energy and ambition, and symptoms of mental depression. On several occasions he has had severe pains in the right hypochondrium suggestive of gall-stones, and occasionally he had been jaundiced. A brief cure at Carlsbad, half-heartedly undertaken, did not benefit him. Lately he has become pronouncedly jaundiced, the bowels have been constipated and offensive, the tongue heavily furred, the lips dry, the breath foul, and the appetite in complete abeyance. At the height of this attack he became melancholy, with fear of the future, which seemed to him inexpressibly dark, although from a financial point of view he was very prosperous, and his social position was assured. He became extremely depressed and even began to talk of suicide. Fever developed, which at first was thought to be typhoidal in character, but subsided after ten days. The Widal test and diazo-reaction were negative. He had had an attack of typhoid fever eleven years ago. Before that he had had no trouble with his liver or gall-bladder. The jaundice has now disappeared, the tongue is clean, the conjunctivæ clear; and while his mental attitude is not yet one of unreasonable happiness, it is much better than it was, and he no longer harbors any melancholy thoughts. Both Dr. Steinbach and myself looked upon this case as one of autointoxication. There was no doubt a bacterial agency, resident perhaps in the gall-bladder and to the toxin production of the bacteria were added the effects of retention of bile.

PELVIC AND NERVOUS DISEASES.

THE THIRD ELEMENT IN THE EQUATION BETWEEN PELVIC AND ABDOMINAL DISEASE IN WOMEN AND DISTURBANCE IN THE NERVOUS SYSTEM.*

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While getting together the material for the study of this subject last year, I was particularly impressed by the fact that epileptic women who were insane and those primary degenerates who were markedly defective and lapsed into dementia during the period of adolescence were practically free from either history or evidence of any menstrual disturbance; also that there were a great many women coming to the hospital, as well as a certain number among those who had been in residence for some time, who were suffering from apparently grave pelvic lesions which had not been recognized before coming to the hospital and of which the patients themselves were not conscious. Further, among those women who complained most of the symptoms of pelvic disease and in whom there was the most intimate association apparent between the pelvic and mental disturbance, the most trivial lesions were present and the slightest departure from the normal in the physical manifestations of the menstrual molimen. Again, almost all of the women who came into the hospital with a history of pelvic disease giving rise to symptoms had received special treatment, generally surgical, but without benefit to their mental condition, as was evidenced by the persistence of insanity and their commitment to the hospital.

As I stated in a former paper,[1] during the past five years in the hospital at St. Peter, these women have been carefully examined and placed on appropriate treatment as soon as admitted; but with no more result, as regards direct influence on their mental condition, than was attained before they came into the hospital. These facts confirmed to my mind a conclusion, before reached from other data, concerning the relation of somatic conditions in general to disturbances in the nervous system; namely, that there must be another factor which determines the association of the different neuroses with pelvic disease in women. This I have designated the third element in the equation; and it may be defined as the nervous potentiality of the woman. I quote from the paper before referred to as follows: "We have not found that there is any particular form of insanity associated with pelvic disease, nor that there is any relation between the intensity of the mental disturbance and the severity of the pelvic disease, and the same holds true in the relation between menstrual disorders and insanity. In those cases where there was a distinct exacerbation of the mental disturbance in connection with the menstrual molimen, the patient was either free from menstrual disturbance or it was very slight. But in all of the cases where there was well-defined menstrual disorder, there was more or less severe physical disturbance. There were 18 cases of infantile uterus among the young unmarried women, and in most of these cases the ovaries were small and hard. These women were, however, primary degenerates[2] and more or less completely demented before coming to the hospital. Among the epileptics there is usually an increase of mental disturbance, and in the number of convulsions during the menstrual period, but those under our care are free from pelvic disease or menstrual disorder. In studying the histories of the 231 women we found that in 10 cases the insanity was attributed to the influence of the change of life, in 19 cases to menstrual disorder and in 15 to pelvic disease. In all of these there was the same want of relation between the severity of the pelvic disease and the intensity of the mental disturbance. In fact, most of the cases, after careful examination and study in the hospital, failed to disclose any evidence of severe pelvic disease or any connection between the insanity and the disease of the generative organs. At the same time, it was quite evident in other cases that if the existing pelvic disease had been recognized and carefully treated in time, the mental breakdown of the woman might have been averted. During the past five years there have been committed to the hospital five women on whom laparotomy has been performed, and some one or all of the generative organs removed for the purpose of curing the existing insanity. In one case the patient was sent to the hospital soon after the operation, as she had torn open the abdominal wound during an outbreak of violence. Her recovery from this accident was uneventful and she got well enough mentally to go home. The other four are still with us and always will be, and during the past ten years there have been twelve other women committed to the hospital on whom laparotomy had been performed for the cure of insanity. They, too, had not been benefited mentally and have since died or are still with us."

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[1] Tomlinson: Association of Pelvic Diseases and Insanity in Women, and the Influence of Treatment of the Local Diseases upon the Mental Condition, The Journal, Sept. 30, 1899.

[2] I mean by primary degenerate, a defective individual who becomes insane during the period of adolescence and lapses into dementia.

The diseases of the nervous system associated with pelvic lesions and said to be due to them are always functional, and I can not find that the claim has ever been made that gross degenerations in the central nervous system have resulted from disease or lesion in the generative organs of women. While a considerable number of women who come to the hospital suffer from pelvic disease or menstrual disorder, these conditions and their influence on the mental state of the woman seldom form a part of the clinical history of the case before admission. But when we consider the intimate association between the nervous system and the functional activity of the generative organs in women, and the further fact of the association of arrested development in the generative organs with instability or defect in the nervous system, it is easy to understand why these disease-conditions should stand in apparent causative relation with each other. This associated defect is frequently so marked in primary degenerates, that the uterus and ovaries present all the characteristics of senility, while menstruation is either scanty, delayed, or sometimes absent for long periods. In two cases in this hospital, both primary degenerates, admitted during the period of adolescence, there was a history of infrequent and scanty menstruation from the advent of puberty, and with the outbreak of mental disturbance, menstruation ceased entirely. In one case this amenorrhea has lasted three, in the other, two years, and there has been neither physical nor mental evidence of the recurrence of the menstrual molimen. Again, in this class of cases, it is the rule for the advent of puberty to be delayed, the average being 17 years; and yet no one at all familiar with insanity would think of attributing the mental disturbance accompanying the progressive degenerative changes in the nervous system in these cases to menstrual disorder. However, it is not uncommon to see young women with unstable nervous systems, whose uteri have been curetted or their ovaries removed with the object of curing a condition dependent upon progressive degeneration in the nervous system; because the physician, while recognizing the intimate relation between the nervous system and the generative organs, failed to see that the pelvic symptoms were dependent upon the degenerative process in the nervous system, and that both were due to defective development.

The study of the life history of animals shows that in the lowest types, the life of the female is constituted in the generation of offspring and that all the activities of the adult organism are directed to that purpose. In the higher animals and man, while this absorption of the somatic activities in the reproduction of the species is apparently not so complete, yet it really is so, but presents a different aspect, because of the alterations in the nature and capacity of the organism resulting from changes in environment and the increased complexity of the activities involved. In the human species the largest share of the energy of the mother is devoted to the preservation of her offspring until they become self-sustaining, and we know from the history of civilization that this period of helplessness has grown progressively longer in proportion to the increasingly complex environment of the human being. Along with these changes in the way the female of the human species has been conditioned, corresponding changes have occurred in her organism and especially in those activities involved in the process of maternity. Conspicuous among these changed and increased activities have been the growing influence of the nervous system upon the cycle of maternity and the converse of this influence in the untoward effect of the stress and accidents of maternity upon the nervous system. The resistance of the organism has been lessened in every direction, so that along with greater capacity to feel has come the tendency toward exaggeration of those sensations and activities which were pleasurable or negative, until they become painful.

While the greater development of the nervous system has increased the capacity of the organism to respond to the incident forces in its environment, it has also made active in consciousness those sensations which result from visceral functioning and which under more primitive conditions were not evident, but now respond excessively to slight stimuli and become conspicuous because defect in their structure interferes with the proper performance of their function, or disease makes their activity strenuous and distressing. Analogous proof of this change is found in the life history of the higher domestic animals, which are placed under artificial conditions as the result of in-breeding and unnatural surroundings. What horses and cattle gain in beauty of form or special capacity they lose in hardihood; because those characteristics which depend upon the greater activity of the nervous system are developed at the expense of the rest of the organism.

The function of maternity in the female of the human species has, as a result of civilization, grown from a simple physiologic to a complex and largely pathologic process, and conspicuous among the changes which have resulted are disturbances of the function of the nervous system, manifested by pain, excessive emotional mobility, and aberration from the normal plane of mental activity. If the conditions of modern civilization have brought about this result in the average woman, it is not surprising that we should find an exaggeration of these manifestations in the unstable and defective. These women have for a common characteristic, excessive cerebral mobility, either resulting from inherited imperfections of structure, or acquired causes of instability; they are constantly affected to an extreme degree by disturbances, which although trivial in their nature, have an exaggerated effect on their unstable, mental equilibrium, making the everyday trials and disappointments of life, which are borne by the average woman with equanimity, insupportable calamities and the resultant excessive emotional activity produces extreme mental irritation and physical exhaustion. Should one of these outbreaks occur during a menstrual period, it would be quite natural that some physical disturbance should occur, either in the form of headache, dysmenorrhea or amenorrhea. The recurrence of these conditions with any degree of frequency would of course soon establish a typical neurosis associated with the menstrual molimen. Again, should this association occur in connection with the cycle of maternity or in the presence of chronic pelvic disease, a neurosis or psychosis might easily be established, the permanence of which would be determined by
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he, with Brooks F. Beebe, gave a clinical demonstration of calomel in 1/10 gr. doses by the mouth. In every instance the flow of bile was very materially increased; it poured out through the abdominal incision, saturating the dressings and a portion of the bed. A week or ten days later we would repeat the experiment, which was followed by the same results. Our conclusions were that calomel very materially increases the flow of bile after each administration. The results of these experiments were given to the Cincinnati Academy of Medicine soon after.

Before closing, I wish to make a brief report of the following case handed me by Dr. David Riesman, of Philadelphia:

The patient is a professional man, about 30 years of age, whom I saw with Dr. L. W. Steinbach. For a number of years he has suffered from what might be called a chronic bilious state—impaired appetite, coated tongue, heavy breath, sluggish bowels, lack of energy and ambition, and symptoms of mental depression. On several occasions he has had severe pains in the right hypochondrium suggestive of gall-stones, and occasionally he had been jaundiced. A brief cure at Carlsbad, half-heartedly undertaken, did not benefit him. Lately he has become pronouncedly jaundiced, the bowels have been constipated and offensive, the tongue heavily furred, the lips dry, the breath foul, and the appetite in complete abeyance. At the height of this attack he became melancholy, with fear of the future, which seemed to him inexpressibly dark, although from a financial point of view he was very prosperous, and his social position was assured. He became extremely depressed and even began to talk of suicide. Fever developed, which at first was thought to be typhoidal in character, but subsided after ten days. The Widal test and diazo-reaction were negative. He had had an attack of typhoid fever eleven years ago. Before that he had had no trouble with his liver or gall-bladder. The jaundice has now disappeared, the tongue is clean, the conjunctivæ clear; and while his mental attitude is not yet one of unreasonable happiness, it is much better than it was, and he no longer harbors any melancholy thoughts. Both Dr. Steinbach and myself looked upon this case as one of autointoxication. There was no doubt a bacterial agency, resident perhaps in the gall-bladder and to the toxin production of the bacteria were added the effects of retention of bile.

PELVIC AND NERVOUS DISEASES.

THE THIRD ELEMENT IN THE EQUATION BETWEEN PELVIC AND ABDOMINAL DISEASE IN WOMEN AND DISTURBANCE IN THE NERVOUS SYSTEM.*

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While getting together the material for the study of this subject last year, I was particularly impressed by the fact that epileptic women who were insane and those primary degenerates who were markedly defective and lapsed into dementia during the period of adolescence were practically free from either history or evidence of any menstrual disturbance; also that there were a great many women coming to the hospital, as well as a certain number among those who had been in residence for some time, who were suffering from apparently grave pelvic lesions which had not been recognized before coming to the hospital and of which the patients themselves were not conscious. Further, among those women who complained most of the symptoms of pelvic disease and in whom there was the most intimate association apparent between the pelvic and mental disturbance, the most trivial lesions were present and the slightest departure from the normal in the physical manifestations of the menstrual molimen. Again, almost all of the women who came into the hospital with a history of pelvic disease giving rise to symptoms had received special treatment, generally surgical, but without benefit to their mental condition, as was evidenced by the persistence of insanity and their commitment to the hospital.

As I stated in a former paper,[1] during the past five years in the hospital at St. Peter, these women have been carefully examined and placed on appropriate treatment as soon as admitted; but with no more result, as regards direct influence on their mental condition, than was attained before they came into the hospital. These facts confirmed to my mind a conclusion, before reached from other data, concerning the relation of somatic conditions in general to disturbances in the nervous system; namely, that there must be another factor which determines the association of the different neuroses with pelvic disease in women. This I have designated the third element in the equation; and it may be defined as the nervous potentiality of the woman. I quote from the paper before referred to as follows: "We have not found that there is any particular form of insanity associated with pelvic disease, nor that there is any relation between the intensity of the mental disturbance and the severity of the pelvic disease, and the same holds true in the relation between menstrual disorders and insanity. In those cases where there was a distinct exacerbation of the mental disturbance in connection with the menstrual molimen, the patient was either free from menstrual disturbance or it was very slight. But in all of the cases where there was well-defined menstrual disorder, there was more or less severe physical disturbance. There were 18 cases of infantile uterus among the young unmarried women, and in most of these cases the ovaries were small and hard. These women were, however, primary degenerates[2] and more or less completely demented before coming to the hospital. Among the epileptics there is usually an increase of mental disturbance, and in the number of convulsions during the menstrual period, but those under our care are free from pelvic disease or menstrual disorder. In studying the histories of the 231 women we found that in 10 cases the insanity was attributed to the influence of the change of life, in 19 cases to menstrual disorder and in 15 to pelvic disease. In all of these there was the same want of relation between the severity of the pelvic disease and the intensity of the mental disturbance. In fact, most of the cases, after careful examination and study in the hospital, failed to disclose any evidence of severe pelvic disease or any connection between the insanity and the disease of the generative organs. At the same time, it was quite evident in other cases that if the existing pelvic disease had been recognized and carefully treated in time, the mental breakdown of the woman might have been averted. During the past five years there have been committed to the hospital five women on whom laparotomy has been performed, and some one or all of the generative organs removed for the purpose of curing the existing insanity. In one case the patient was sent to the hospital soon after the operation, as she had torn open the abdominal wound during an outbreak of violence. Her recovery from this accident was uneventful and she got well enough mentally to go home. The other four are still with us and always will be, and during the past ten years there have been twelve other women committed to the hospital on whom laparotomy had been performed for the cure of insanity. They, too, had not been benefited mentally and have since died or are still with us."

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*Presented in a Symposium on the Relation of Pelvic and Intra-Abdominal Diseases to Nervous Diseases, before the Section on Obstetrics and Diseases of Women, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, -8, 1900.

[1] Tomlinson: Association of Pelvic Diseases and Insanity in Women, and the Influence of Treatment of the Local Diseases upon the Mental Condition, The Journal, Sept. 30, 1899.

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The effect of pregnancy upon the nervous system of the mother and the peculiar susceptibility of women to causes of mental disturbance during the puerperium are so well known, even among the laity, as to have resulted in a definite tradition, with conventional rules for the conduct of the pregnant woman and her environment during the puerperium; because experience has shown that the woman is more susceptible to external sources of irritation at this time and is liable to serious disturbance of physical health, by untoward conditions in her environment, which at other times would be innocuous and especially those which affect the nervous system. These ill effects seem to increase with civilization and its requirements. In other words, along with the increased capacity to enjoy there goes a proportionate tendency to suffer; so that while frequent child-bearing, overcrowding and bad surroundings in the tenement districts of the city, and exposure and overwork in the country among the poor, bring a train of physical ills to complicate maternity, high-pressure intellectual life and social competition have an equally disastrous effect upon the well-to-do. Thus, whatever weakness or defect may exist in the mother is exaggerated by her condition, and what was originally a physiologic becomes a pathologic process, out of which develops a host of conditions, most of which are temporary but that often destroy the physical or mental health of the woman.

When we come to the analysis of case records, however, we can not help being struck by the relatively small number of women who have borne children and in whom pelvic disease has resulted, who become the victims of any one of the different chronic neuroses or psychoses. When we consider further how common it is to find profound neurasthenia or hysteria associated with a slight perineal tear, increased mobility of the uterus or slight malposition, while a fibroid tumor wedged in the pelvis, pus-tubes, or a complete perineal tear, in another case will give rise to no nervous symptoms whatever, there is still further evidence that the lesion of the generative organs is not the cause of the neurosis associated with it.

Two women came under my observation last year who well illustrate the antithesis. One, a young woman, the mother of two children, the child of a consumptive mother, had been highly neurotic as a girl and had suffered from dysmenorrhea. When I saw her she had been in bed most of the time for six months and had all sorts of pelvic and nervous symptoms. She had a small perineal tear and some prolapse of the vagina, but no disease of the pelvic contents, and she menstruated regularly without discomfort except from the nervous symptoms. The other was a woman 60 years old, who was in robust health, without an ache or pain, and who was doing the work of a man out of doors; yet her perineum was torn to the sphincter and the elongated cervix with the prolapsed vaginal wall protruded three inches from the vulva.

In St. Mary's Hospital, Rochester, Minn., where a large number of operations for abdominal and pelvic disease are done every year by my friend, Dr. W. J Mayo, the records show that those women who complain most and have the most marked nervous and mental symptoms in connection with pelvic or abdominal disease, usually have the most trivial lesions, and in nearly all cases where the neurosis and psychosis is attributed to the pelvic or abdominal disease, he has found evidence of attacks occurring before the physical disease existed. Furthermore, he has seldom seen the nervous conditions cured by operation for the pelvic or abdominal disease in this class of cases; athough a temporary benefit may accrue as the result of the preparatory treatment and the period of convalescence, as well as the suggestive effect of the operation itself. In his experience, only those neuroses and psychoses have been benefited which have made their appearance after the onset of the pelvic disease, and which grow worse in proportion to the interference with the physical health and welfare of the woman. The different neuroses were not present in his experience, except in those cases where the personal history of the woman showed pre-existing instability or defect in the nervous organization.

While it is undoubtedly true that a great many women who have an unstable nervous system become insane or the victims of neurasthenia or hysteria in the presence of severe pelvic or abdominal lesions, these disturbances do not take place until the disease has existed for some time, that is, until the general health of the woman has been seriously impaired, her vitality lowered and her resistance materially lessened. Besides, associated with these lesions are usually anemia, septic infection and autointoxication, and usually after these secondary conditions are established, the nervous breakdown takes place. To illustrate: A woman came under my care, transferred from a general hospital where an operation had been done for the removal of pus-tubes. She was 35 years old, the mother of four children and had been in good health until the birth of her last child, three years before. She was and had been highly neurotic and had several explosive outbreaks as a girl, besides presenting other evidences of instability. She had been quite ill for a year before the operation, but passed through it without any untoward symptoms and was apparently convalescing nicely, when, seven days after the operation a stitch-abscess formed in the abdominal wound. The day this was opened she became restless, did not sleep the following night, and in a few days passed into a condition of violent excitement, in which state she came under my care. She had borne successfully the illness resulting from the pelvic lesion and the shock of the operation, but the reinfection from the stitch-abscess, added to the artificial establishment of the climacteric, was too much for the unstable brain and a degenerative process began, which in her case was permanent.

Taking these facts into consideration, it would seem evident that the equation between pelvic and nervous disease is not a simple one, and also, that with the prognosis as x, the third element is the most important; especially when we have to consider the effect of surgical procedure and its potentiality for cure in those cases where pelvic lesion and nervous disease are associated. The functional activity of the general nervous system is manifested in the perception, transmission and relation of external and visceral impressions, and in the co-ordinate discharge of motor impulses in the manifestation of muscular and visceral activity. This adaptation of internal to external relations constitutes the life of the individual, and as the tendency is for all activities which persist to become definite and uniform, most of those which have to do with the vegetative and locomotive functions become automatic and are performed without the active intervention of consciousness. It will be readily understood that the welfare of this mechanism will depend upon its proper nutrition and the abscence of any unusual or excessive strain. Should such a strain occur, the result would be a disturbance of definiteness and uniformity proportionate to the amount and character of the strain, while the persistence of the aberration of function would depend on the degree of interference with nutrition and the relative perfection of the different parts of the mechanism.

The history of the sexual life of women shows that, even among the most healthy, excitement, overwork or emotional disturbance are reflected in disturbance in the function of the generative organs, especially among those in adult life and who have borne children. If these abnormal conditions occur during the menstrual molimen or in the cycle of maternity, they result in dysmenorrhea, headache, emotional outbreaks, or abortion, delirium, subinvolution, leucorrhea and ovarian tenderness; all of which disappear as soon as the general health of the woman is restored to normal. On the contrary, if the nervous organization of the woman is unstable, these untoward effects are exaggerated and tend not only to recur but to persist and become habitual. This is manifested by the change of character, which as a rule is permanent; the failure of memory and attention; and the lessened or lost capacity for continuous mental effort. Even in the mildest cases there is loss of self-control, manifested by impatience, irritability and complete loss of "grit," so that the victim succumbs to trifling disturbances, is exhausted by slight muscular effort, and on account of these conditions becomes abnormally self-conscious, recording all experiences in a staccato key and looking upon every relation in life from the standpoint of individual personality; realizing vividly the responsibility of others toward herself, which she magnifies, but losing sight entirely of her responsibility toward others. These people are most unhappy, living always on a transcendental plane of nervous erethism, magnifying every ordinary sensation into a profound emotion; seeing in every call for muscular effort a herculean task, and resenting the apparent want of sympathy shown in the failure of those around them to appreciate things as they see them; while at the same time their exaggerated egotism makes it impossible for them to realize that there is any standard other than their own.

If I am right in my contention it would follow that the symptoms accompanying pelvic disease and menstrual disorder and referred to them are the result, rather than the cause, of disturbance in the nervous system, and that their variation, intensity and persistence are dependent upon the nervous potentiality of the woman. Therefore, in determining their pathology and considering their management, as well as the prognosis and the effect of treatment of the disease of the generative organs; we should be guided by the data to be obtained from the family, and personal history of the woman, which show the limitations of her nervous potentiality and the nature of its response to the untoward conditions in her environment.

Neuroses and psychoses as they occur in men are quite commonly attributed to disease conditions in, or abuse of, the generative organs, but we do not hear of operative measures being recommended for the cure of the existing neurosis or psychosis. On the contrary, it is fully recognized by those whose experience has made them familiar with the manifestations of insanity, that these disturbances or perversions of sexual function in men are symptoms and a part of the neurosis or psychosis. The gonorrheal infection, which in woman produces a pyosalpinx or hydrosalpinx or pelvic adhesions, in man produces cystitis, pyelitis or septic arthritis. Yet, if these conditions occurred in association with a neurosis or psychosis, they would not be looked upon as causative factors, and we would not expect to cure the nervous disease by operating upon the generative organs; although such an operation might be done for other reasons.

Three men have been admitted to the hospital at St. Peter during the last ten years, the victims of self-mutilation, in all of whom dementia rapidly supervened upon the castration. Their history, however, showed them to be defective individuals, in whom the mental breakdown was the result of the incidence of the ordinary stress of industrial and social competition upon a limited cerebral potentiality at a time when resistance was lessened by privation or disease.

I can not do better in closing than to quote from the conclusions expressed in my paper of last year on this subject: Menstrual disorder and pelvic disease are quite commonly associated with the different neuroses and psychoses, but in my experience they bear no apparent causal relation to the nervous disturbance; nor is the intensity of the nervous disturbance in proportion to the gravity of the physical disease; but on the contrary, the most grave pelvic disease, even among the neurotic and insane, exists without disturbance in the nervous system and frequently without physical symptoms.

In cases where the insanity or chronic nervous disease has existed for more than a year, or the patient has a defective nervous organization, treatment of the disease of the generative organs is practically without effect upon the insanity or neurosis, and in such cases operative interference resulting in the establishment of an artificial menopause almost invariably hastens the onset of dementia.

Operative interference is called for in the treatment of pelvic disease among the insane for the same reasons that would determine the necessity for such treatment among the sane; that is, for purely surgical reasons.

In order to determine whether or not treatment of the disease of the generative organs will have a curative effect on the insanity or neurosis, it is important to know the family and personal history of the patient with regard to the presence or absence of evidence of unstable or defective nervous organization, the length of time the insanity or neurosis and disease of the generative organs have existed, and to what extent the general health of the woman is affected by the pelvic disease independently of the insanity or nervous disease.

PELVIC DISEASE AS A FACTOR OF CAUSE IN INSANITY OF FEMALES AND SURGERY AS A FACTOR OF CURE.

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In considering what we know of the causes of insanity, the unknown quantity represents an equal ratio with that which may be fairly regarded as the known. In the psychiatric revival of the last ten years, the moral causes, upon which so much stress was wont to be laid in the past, have sustained a severe recession.

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*Presented in a Symposium on the Relation of Pelvic and Intra-Abdominal Diseases to Nervous Diseases, before the Section on Obstetrics and Diseases of Women, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

Formerly excessive grief or excessive joy, loss of property or loss of soul, diabolism or sainthood; in brief, any disturbance of the emotions, was sufficient in assigning cause. To-day, in the light of what we know of anthropology, pathologic chemistry, bacteriology, and autointoxication, science has turned to physiologic phenomena for explanation in the disease, insanity. It having been observed in the early history of medicine that many nervous and emotional disturbances in women were associated with disorders occurring at puberty, the catamenia, the puerperal state, the lactic and the climacteric periods, the older observers placed great weight upon these normal physiologic appearances as evidences of pathologic manifestations.

If the insane condition suggests a disturbed brain on the one hand and pelvic disease on the other, an allied pathologic condition would naturally suggest a close anatomic connection and an intimate physiologic association. For what interest it may lend we will briefly rehearse the early development of these two sets of organs and note in how far there is justification for this faith from an embryologic standpoint. The earliest evidence of anything like form in the embryo of organic life is the aggregation of the epiblastic cells about a medullary groove, which ultimately becomes the neural canal; then there quickly follows in the anterior portion of this canal the formation of three vesicles which later go to make up the brain. In the chick all this process occurs wthin the first twenty-four hours. About the forty-fifth hour there appears upon the field for the first time the earliest indication of any cell arrangement in connection with the genital organs, viz., the Wolffian duct, a product of the mesoblastic layer. On the fourth day may be seen on transverse section of the embryonic chick the first appearance of the Wolffian bodies. These are vascular glomerulous structures, and in the human appear to have some connection with the embryologic evolution of the genital organs. They remain functionally active throughout life in some lower vertebrates, but atrophy before birth in mammalia (Quain). However, vestiges remain as the efferent ducts of the testes, the paradidymis and the gubernaculum (Kobelt) of the male, the paroophoron (His and Waldeyer) and the round ligament of the uterus of the female. They seem to establish their identity in these parts of the genital organs. According to Waldeyer ova are seen in the thickened germinal epithelium of the embryo chick of four days. Up to a certain time in the human the external organs are entirely of the same form in both sexes, and the genital organs which afterward distinguish sex have a common origin. At about two and one-half months the genital tubercle projects about 1.5 mm., and has a knob-like end which indicates the future glans penis or clitoris. On its lower surface is situated a groove bounded by the genital folds, which in the female become the nymphæ. At twelve weeks the sex is yet indefinite, and not until three and one-half months is the sex distinguishable. Thus, while the genital apparatus has not taken on its form or function, the brain and cord are long since established in both and preside over all. Flechsig and Edinger, in their investigations in the embryology of the nervous system, have shown that most of the nerve fibers develop their medullary sheaths before the fourth and sixth week. Before the sexual organs have begun to functionate, the various segments of the cord are fixed and established, and are concerned in the evolvement of the very organism of which they are but an embryonic part. It is to be borne in mind in this brief résumé that the entire nervous system, including the peripheral, sympathetic, and splanchnic systems, develop from the epiblast, while the genital and urinary systems take their origin from the mesoblast; that these different systems of organs were formed at different stages of early development; that the function of the generative organs comes into activity later and departs earlier. Furthermore, after the organism is fully evolved, and all its parts fixed in function, that the pelvic organs are formed to be innervated by the lowest centers of the cerebrospinal axis; that their connection with the higher brain centers is indirect and remote; that their functions are largely, if not wholly, involuntary and automatic, as are those of other organs of the viscera depending upon the spinal cord for their innervation. The burden of explanation of these pathologic seemings must needs, therefore, fall upon the sympathetic system, of which we know so little, but whose screen is so convenient when something of a functional character is to be elucidated. In approaching the subject from this standpoint should we not have a care in crediting an inferior organ which has developed under the dominance and supremacy of a higher organ with so great an influence in instituting pathologic processes in that organ? When we consider the distance and indirect path which an impression must pass from the lowest segment of the cord to the highest cortical level, is not the probability scant for minor local lesions or disturbances causing such a degree of irritation as to establish a central psychical disorder?

All the eminent authors, past and present, who have written of mental disease have treated the subject of the relation which disturbances of the genital organs of females sustain to the cause of their mental difficulties.

Hippocrates spoke of the first menstrual effort in this connection. Esquirol says in his text: "Menstruation, which performs so important a part in the economy of women, can not be a stranger to the production of insanity. It even takes a sixth place among physiological causes." He alludes with equal fervor to leucorrhea, the puerperal state and period of lactation. Greisinger and Feuchtersleben, the older German writers, with equal enthusiasm allude to the part which disturbances of the genital organs take as physical causes of mental disease in woman. Clouston recognizes puerperal and lactational insanity as special forms, although other reliable observers discredit these as special types. Maudsley must be added to the list, but modifies his argument as follows: "So frequently is hereditary predisposition more or less traceable in these three forms of insanity—that of lactation, puerperium, and pregnancy—occurring in connection with child-birth, that we are warranted in declaring that it is quite exceptional for any of them to be met with where it is entirely absent." He adds that "disease of the pelvic organs may act as a powerful co-operating cause for the production of insanity without giving rise to any particular group of symptoms." Among the older writers reference is made to special cases of mental disturbance which seem to depend upon pelvic disease. Schröder Van Der Kolk alludes to that of a woman, perpetually melancholy, who was relieved by replacement of the uterus. Fleming also relates cases cured by the employment of pessaries. Since these men wrote, all that is known of asepsis, chemical pathology, abnormal states of the blood in the pregnant condition, and kindred matters, have been added to pathology in general and have become common property in the pathology of the insane state.

As representing the more modern and rational view of this question your attention is called to two authors particularly.

Krafft-Ebing maintains that the influence of diseased generative organs in woman should not be underrated as a physical cause of insanity, and gives them the following order: "1. Uterine trouble, accompanied by chronic inflammatory irritation changes. 2. Neuralgic and hyperesthetic affections of the vagina. 3. Chronic catarrh, hypertrophy, erosions, etc., of the cervix." He holds that malignant disease seldom leads to insanity; that the psychosis presents nothing characteristic; that genital disease sometimes so weakens a constitution that it falls a prey to mental disease, or occurring in a predisposed person, acts as an exciting cause of insanity.

Kraepelin, with no little degree of conservatism, admits a close relationship between psychic conditions and the sexual life, as evinced by the changes in character in the normal development and retrogression of the sexual organs, and in the altered character of the castrated. He regards it, therefore, comprehensible that disease of the sexual organs may have a decided effect on the psychical life. Reference is made by him to the special disposition of women to develop insanity at the climacteric, a period of retrogression and degeneration noted in men as well at the beginning of old age, to the circumstance that operative procedure originated from the fact that certain forms of hysteric insanity improved by treating existing genital disease, and the conclusion was drawn that displacements of the uterus, erosions of the cervix, diseases of the tubes, ovaries and vagina, were actually able to produce insanity, and that hysteria is often the clinical expression of these cases. These cases furnish the list of wonderful cures by operation. We know, however, that the same results are obtained through entirely different, even senseless means, from which we conclude the effect to be a psychic one. In fact, upon the ground of clinical experience to-day, we can say with certainty that disease of the female genital organs leads to insanity only when the ground has been already prepared by disease-predisposition. It is without characteristic clinical features, which are dependent on the constitution of the one affected. We will have to do with some one of the many forms of degeneration insanity. It is noteworthy in the entire matter that the severest diseases of the pelvic organs —the malignant tumors—comparatively seldom produce insanity. When this is the case, they are such forms as occur with all severe disturbances of nutrition.

Since prominence has been accredited the physical element as a factor in the cause of insanity, renewed effort has been made to increase the percentage of recoveries of the insane, but with little promise. Despite the pursuance of lines of treatment in accordance with our newer ideas of pathology, our increase in the list of recoveries is not commensurate with the effort and energy employed. Out of the theory that disease of the pelvic organs of females was responsible for many of the neuroses incident to this class, and out of the fact that some brilliant results have been demonstrated by the use of the knife, that instrument in the hands of the surgeon has been heralded as a therapeutic agent of virtue in the cure of the insane.

The knife as a factor in cure has widened its sphere of action and utility in a number of new fields during the last quarter of a century. The part it has played in the realm of the abdomen, the kidneys, the urinary tract, the organically diseased brain, the stomach and the intestinal tract, has given an impetus to this means of cure, until now the only question arises as to what are the limitations of its real usefulness. In this observation I have reference to the rôle which surgeons play in the cure of insanity by operations upon the pelvic organs of the female.

Neither one nor several successful cases is sufficient to establish a rule of practice. While reports of a considerable number of successes have been recorded, those cases in which failure resulted, and those in which the condition was made worse have no place in publication. The results have been so various that the entire subject is a mooted one, and our object in this paper is to throw some light upon it. On the other hand, most alienists, while granting that cure may possibly follow the use of the surgeon's knife, are not willing to join the ranks of those of such strong faith, but oppose it with a conservatism which they regard as justified by a broad and practical experience. Between these two positions the writer believes there is a middle ground on which all can stand with rationality.

Before endeavoring to indicate what this position should be, it is our purpose to present some practical results of operations gleaned from those who have been investigating this subject, and from the observations of others equally interested.

Dr. H. A. Tomlinson of St. Peter State Hospital, Minnesota, reported, in a monograph, in 1899, a study of 450 female cases. Half of these had some menstrual irregularities. Of the married women 58 per cent. had pathologic conditions of the pelvis, mostly dependent on labor. Many of these were operated on—number not stated—with the following general results: More or less improvement of physical condition, occasionally slight improvement of mental condition, but in the majority of cases practically no effect on the mental condition, and no cases cured. Another series of 231 unselected cases contained 38 whose mental disturbance was apparently increased by the pelvic condition. Seventy presented pelvic diseases justifying operation. Results: Pelvic condition cured in 22, improved in 48; mental condition, no cures, 29 improved, 51 unimproved.

Dr. R. M. Bucke, Ontario Asylum, reports that 136 selected cases—out of 750—showed 126 with pelvic disease; of these 110 were operated on, 196 operations being made altogether. General results: 3 deaths; 40 recovered mentally, 36 per cent; 32 improved, 29 per cent.; 35 unimproved, 32 per cent. The results in inflammatory were much better than in non-inflammatory conditions. Of the cases benefited by operation, the number where duration of insanity exceeded two years equaled the number under two years' duration. Thirty-two non-gynecologic operations showed no mental recoveries. This author places importance on the toxic effect of internal secretions of the ovaries and glandular structures of the cervix, and claims that one-fourth to one-sixth of all female patients in asylums are there because of pelvic diseases.

Dr. A. B. Howard, of the Cleveland State Hospital, reports 12 cases operated on. Results: 1 cured—acute case of 9 months' standing—6 improved—in 3 the improvement was of short duration—4 unimproved; 1 death from malignant disease. Of our own cases, 10 operated on at the Columbus State Hospital showed no recoveries, and in 2 the operation resulted in making the mental condition worse. Another group of 4 cases of ovariotomy was under my observation while acting as assistant in the Cleveland State Hospital, about twelve years since. Results: 1 recovery, 2 improved, 1 unimproved. These cases were 2 of hystero-epilepsy, 1 improved, 1 unimproved; 1 of recurrent mania, improved, has since had one recurrence; and 1 of hysteromania of five years' duration, resulting in a perfect cure.

1. The 206 cases mentioned here as operated on have been gathered out of an aggregate of 2000 insane females.

2. Of the selected cases it appears that we may expect recoveries in about 33 per cent.

3. Of the unselected cases we may expect a cure in about 5 per cent.

4. Inflammatory pelvic diseases promise the best results.

5. The cases wherein the mental disturbances are associated with the catamenia offer the best probable results.

6. Operation on the hereditary, predisposed cases, with no local disease, will most probably result in failure, and leave the patient in a worse condition than before operation by hastening an early climacteric period.

7. The class of cases predominating in different localities differs to such an extent as to probably account for some of the lack of uniformity of results noted by widely separated observers.

After an inventory of the data at hand, it appears that we are justified in the conclusion that pelvic diseases are a factor in the cause, and that surgery is a factor in the cure, of the insane condition. The question now confronting us is what estimate may be placed upon them as factors; as such both evidently have their limitations. The established law of multiplicity and complexity of cause admits few exceptions in singleness of cause. It is important to take the broadest view in the consideration of etiology in insanity. The specialist is too prone to infer the organ of his specialty to be the source of all other pathologic conditions in the body, when the lesion and the remote symptoms may be but consequential to general conditions. In the consideration of cause in the insanity of females, hereditary predisposition, puberty, the puerperal and the climacteric periods are especially to be borne in mind. In the general physical examination, pelvic disease should always be sought for, and when found to exist should be eradicated. No physician should consent to the commitment of a female until the existing pelvic disease is removed, except under absolute necessity from her mental condition. Upon entrance into an asylum, every female should be examined by a conscientious specialist, and if found diseased, operation should be urged. In brief, the rule of practice should be to give the insane woman the same advantages of treatment as the sane, when disease actually exists.

In the absence of pelvic disease, operative procedure as a possible curative factor should be approached with the best judgment and the greatest caution. It is questionable if medical knowledge and experience would justify operating on the defective classes, females at puberty, idiopathic epileptics and those whose insanity is of not over two years' duration. All our asylums have representatives from these classes, who have not only been not benefited, but in reality have been made worse by operation. This is the list it would be at least instructive to parallel with that of the cases benefited, before passing judgment on any case to be operated on.

There are patients who, I believe, may be regarded as non-diseased but operable. These include the hysterical, those especially disturbed at the catamenia, and those in the post-climacteric years. From the first two, some of our most brilliant recoveries have come by the employment of surgery alone. Operation in the post-climacteric period may hasten senility, but is not likely to do much absolute harm.

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Discussion on Papers of Drs. Noble, Marcy, Johnstone, Beahan, Ricketts, Tomlinson, Carpenter and Hughes.

[Dr. C. H. Hughes' paper on "Interrelation of Gynecology and Neurology in Practice" was printed in the *Alienist and Neurologist*, of July, and an abstract thereof in The Journal, vol. xxxv, p. 257.]

Dr. W. E. Porter, New York City—The most interesting and instructive fact which has been demonstrated by these highly interesting papers is that we must not, as gynecologists, attempt to deal with this most important subject alone. We must combine with the neurologists, but how infrequently this is done. We have a case presenting these nervous phenomena and we proceed at once to operate, without consulting the neurologist, and unfortunately do more harm than good. The patient is put into a mental state far worse than that which existed prior to the operation. This phase of the subject has not been dwelt upon and I will take the liberty to refer to nervous phenomena as the result of a premature menopause brought on by oöphorectomy and similar operations. In my clinic in St. Vincent's Hospital I frequently have such cases brought to me. Hysteria, mania and hystero-epilepsy occur in a surprisingly large number of cases. The patient has convulsions, epileptiform in character, occurring two or three times a month. I am sure we have all seen many of these cases. The ordinary nervous conditions are most commonly observed. Hence, before proceeding to operate on cases having a history of some nervous condition, we should consult with a neurologist and work with him. There should be in connection with the asylums for the insane a consulting gynecologist. The superintendent can not make a local examination, which every patient should have, and the gynecologist would, therefore, be a most valuable addition to the staff of the asylum.

Dr. George Erety Shoemaker, Philadelphia—It seems to me that Dr. Hughes struck the point at issue, that the gynecologist and neurologist should have the same view-point from the one central standpoint of truth. If we could all have the same training, and look at these things from the same point of view, our problems would be easily solved. Even as it is, our objects and methods are nearer alike than some think. A friend of mine has charge of a large institution for the insane, and is opposed to the gynecologic treatment of the insane. Now, he says that many of his patients show defective nutrition and he always proceeds to build them up. He says he cures quite a number of insane in this way and improves a great many belonging, of course, to certain types. The gynecologist goes to work on cases showing profound nervous symptoms as well as gynecologic symptoms in very much the same way, and proceeds to remove whatever trouble he can detect as an indirect way of improving the patient's nutrition. He has learned from the study of hematology that the presence of a pyosalpinx will alter the proportion of red and white corpuscles and other constituents of the blood. The soreness present prevents all healthful exercise. He removes the infected tubes, not to cure a nervous condition directly, but to put that patient on the highest possible plane of nutrition. He has seen fibroids which have bled a little for years and years and finally the nutrition of the patients is brought to such a low point that disorders to which they may be liable have an opportunity to develop. Given a nervous system unstable by heredity, a bleeding fibroid may thus be an indirect cause of certain disorders of the nervous system. The gynecologist removes the bleeding fibroid, not to cure the insanity or neurasthenia directly, but to help the patient to a better state of general nutrition, and in some instances the result is remarkably good. He finds another patient who gets up ten or twenty times during the night to urinate because of descent of the bladder. The loss of rest has told sadly upon her nervous condition. He restores the pelvic floor and makes the patient comfortable. She rests well and regains her normal nervous equilibrium. We are, many of us, working to secure the same ends, and why need we clash in our theories?

I want to call the attention of our neurological co-workers to a misleading statement which sometimes appears in their statistics or case reports. The statement is "that such and such patients have had their ovaries or uteri removed to cure insanity, etc., without effect." Now, by what authority can they state that those ovaries were removed *to cure insanity?* How do they know whether or not there was grave ovarian disease in those organs? For example, a patient of mine had hysterectomy for large bleeding infiltrating adenoma, practically adenocarcinoma. She was of bad heredity, afterward became insane, and is now in an asylum. I submit that the superintendent of that institution, who has never communicated with me, gravely errs when he classes that patient with others whom he supposes have been operated on for insanity.

Dr. Joseph Eastman, Indianapolis—If there is one thing more important than another, any two things more appalling than any other two, it is the rapid increase of insanity and cancer. If there are more important problems for the coming century I would like to know what they are. Physical deterioration is the law of advancing civilization. The nervous tension so much in evidence in our school system and in society surely stands in a causative relation to the two dire maladies I have mentioned. A young gentleman, the other day, asked for the privilege of serving an apprenticeship with me in order to learn my specialty. I asked him how long he had practiced. He answered, eight years. I told him he had better go back and do general work two years more, as ten years in general work was an essential prerequisite before beginning a specialty. From the remarks this afternoon it looks as though the old-time general practitioner, who looked through the patient's entire system as well as through the speculum, was again coming into vogue. To plough deep, however, implies no attempt to turn a wide furrow. So it seems to me that a series of specialists, ploughing deeply along their respective lines, are needed in these obscure cases and will get good results. I recall two instances where gentlemen relieved insanity by neurologic and gynecologic treatment combined. I have said enough. It was only my desire to pay respect to the subject, which prompted me to take the floor. It were like adding color to the beauty of the rose with a paint brush, or embellishing the beautiful tint of the lily with a pencil to attempt to add one word to the subject under discussion after the scholarly, elaborate, eloquent and beautiful remarks of America's most distinguished neurologist, Dr. Hughes, of St. Louis.

One point with reference to Dr. Rickett's paper, I would like to call his attention to the report of the Edinburgh committee, that calomel beyond a question diminished the flow of bile. What seemed to be an increase of bile was in reality the subsulphid of mercury.

Dr. I. S. Stone, Washington, D. C.—I am reminded this afternoon of a discussion some years ago along the same line, when several papers were read on this very subject. I wrote to nearly every insane asylum in the United States to ascertain whether any examinations of the genital organs were made, and I was astonished to learn that in not a single institution in this country were these examinations made. I want those gentlemen of the asylums—the alienists— to at least give us credit for stirring them up in that matter.

In regard to Dr. Noble's paper, I see he has gone to much trouble and has done a great deal of work. He tells me that he has not read some of the most valuable parts of his paper. Regarding Dr. Rickett's paper, I do not see why he claims that reflex nervous disturbances are peculiar only to gallstones. I am very willing to admit that reflex phenomena do occur. I have operated in such cases, and produced a cure. Adhesions may have some influence on the nervous system, but at the same time it seems to me that an irritation of the foot or any part of the body would have much to do with autosuggestion and influence on the mind. I operated on a case for lacerated cervix, and the patient went insane. She thought her ovaries were removed. I had closed the uterus so tightly that she could not menstruate, and there was a collection of blood. She and her friends consequently believed that her ovaries had been removed because she did not menstruate. She was insane for about three months, when she was operated on again, the uterus was opened, menstruation reappeared and she recovered. I believe many cases of this kind occur.

Dr. D. Benjamin, Camden, N. J.—I have found by examination and observation that a great many ovaries are being removed for pain. The discussion this afternoon, showing the relation of neurology to gynecology, has brought to my mind the fact that when I was assistant in the neurological clinic of the University of Pennsylvania Hospital, we often had patients with severe pain over the eyes, sometimes between the ribs, sometimes in the liver, but that did not mean that we were going to remove those parts. On the contrary, we endeavored to cure the pain by medicines and hygienic measures. Then, when I got into the gynecological clinic, and afterward had charge of an hospital, as I have now, I found that many of these pains were of the same character. We are too liable to forget that factor, especially when a patient comes in as a gynecological case. Many times women will come in and say that they have no pain; sometimes they are run down generally, and sometimes there is a local irritation. I have found that usually the operator proceeds at once to attempt a cure of the local condition, but the same symptoms are present after the operation, either there or elsewhere. I invariably prescribe for patients who are complaining of these pains, without any clear indication of organic disease or the exact locality of a lesion, those medicines which we use in the neurological cases. My assistants have repeatedly remarked about my exclusive use of medicines in many of that class of cases, but the results have justified my doing so. If we will remember to give those patients a full course of antimalarial or antineuralgic and electrical treatment, we will be able to cure many cases without an operation.

Dr. E. G. Zinke, Cincinnati—What a wonderful difference between the meeting of to-day and that of two years ago at Denver. It shows what progress has been made within two years. Two years ago it was war and to-day it is peace. I have been very much instructed and have profited considerably by what I have heard this afternoon, and I wish to contribute my share of the compliments due to Dr. Hughes for presenting this matter in the proper light. No operation should be performed unless there is disease, and no woman should be confined to the insane asylum unless she has been examined by a gynecologist.

I wish to speak of two cases in which, within the last two years, I was called on to operate for pus-tubes. One patient was one of the most charming women I ever met. The result was all one could desire; there was perfect union and the lady left the hospital as well as any one possibly could do. Within one week thereafter symptoms of insanity developed and she had to be sent to the insane asylum, where she was confined for many months; nearly two years passed before she recovered. I was condemned by her family and friends and by many of my fellow practitioners for operating on this patient. Two months afterward I was called to see a similar case. I advised removal of both tubes, and ovaries, too, if necessary, notwithstanding my experience in the other case. Some one hearing of this went to the family and asked them who advised the operation. They were then urged not to submit to the opera-

by doing a trachelorrhaphy. I do not think any man ever did that. I do not doubt his veracity, but I doubt his judgment. While most of us here to-day are exclusively surgeons, yet we are sufficiently versed in medicine to know that salicylate of soda is not the only remedy for rheumatism. Free purgation, rest in bed, warmth applied to the affected part, and restricted diet are well-recognized methods of treatment for this disease. Nearly all patent medicines for the cure of rheumatism contain violent purges. It is probable that Dr. Johnstone prepared his case for operation with a free purge, that after operation she was confined to bed for a number of days, and kept on a restricted diet. It seems to me that it is more reasonable to attribute the cure of the rheumatism to these measures than to the uniting of a lacerated cervix.

Dr. C. H. Hughes (closing the discussion)—The one very important point that has been broached is the question of promising too much. That, I think, is the trouble with gynecology and sometimes with neurology. I have always endeavored to guard against this whenever I advise an operation, as I have often had the opportunity to do. I have never made the mistake of saying that the operation would certainly cure. Another great difficulty in both departments of medicine, especially in surgery, is the amateur, the gentleman who comes straight from college and practices gynecology. We often have to encounter him and his self-confident counsel.

It was stated here to-day that gynecological procedures would cure insanity. It is always a mistake to say that any procedure will cure insanity. Neurology and psychiatry look upon insanity as the product of one or more generations of disease. They consider the neuropathic factor as the predisposing cause. Heredity is another factor. Neurologists all acknowledge that disease of the uterus and its adnexa, or any transmitted irritation, may act as an exciting cause if long enough continued. We then have insanity connected with uterine trouble. The gynecologist who will tell his patient that she will get well after an operation, is likely to make an error of judgment, although sometimes he may be making a correct statement. My rule in advising people is always the same. I tell them that this thing is a source of irritation, that if I had it I would get rid of it in order to give myself the best chance. I have always been very careful not to commit myself as to the outcome of the trouble. I have seen a trifacial neuralgia which ultimately recovered by persistent treatment, and yet after the patient had recovered I was surprised to find mental aberration set in. I had to treat her for two months before she began to recover. She had been gynecologically treated some years before that and the people blamed the gynecologist for the insanity.

Dr. E. C. Carpenter (closing the discussion)—My position with regard to giving the insane woman the same chance as the sane I still hold as tenable, because I regard the mental part of the disease so serious a matter that even where local disease is only a probable element, the patient should have the opportunity of having that cause removed.

Dr. Edwin Ricketts (closing the discussion)—I will admit that Dr. Zinke's criticism that gallstones sometimes recover is correct, but I am quite sure that he would not take the chance on any pus-tube. Nevertheless, we know that some neglected cases of pus-tube empty themselves and recover and yet we do not stop to advocate the removal of pus-tubes. As to Dr. Eastman's remark, I want to call his attention to the fact that there is quite a difference betweeen bile escaping from a fistulous opening and that coming through the anus. That is probably responsible for his sulphid of mercury.

Dr. Henry O. Marcy (closing the discussion)—A consultation took place, more than sixty years ago in London, between Sir Benjamin Brodie and Dr. Thomas Watson, who wrote the most excellent text-books on medicine and therapeutics, the standard works for a generation. The great surgeon, Sir Benjamin, asked the famous physician to first give his opinion. Dr. Watson replied:

"It is good medical practice to remove the cause of irritation, if possible, and then trust that the irritation itself will cease." Therefore you see that we, in this closing period of the century, are not very much wiser than those men of the earlier time. I wish to refer to certain of the points not brought out in regard to Dr. Bucke's report. Quite a number of years ago he and I discussed the relation of nervous and mental diseases as often dependent on pathologic conditions of the reproductive organs. He said: "I will examine the 500 women under my care and ascertain how many, if any, are the subjects of pelvic diseases." The results have been published and he is now the most enthusiastic gynecologist I know. Cured, 40 per cent.; greatly improved, 30 per cent.; making 70 per cent. benefited by operative procedure. I suppose Dr. Bucke would say that he had removed the cause of irritation and therefore the patient recovered. I have asked superintendent after superintendent of the asylums what they knew of the pelvic diseases of the women under their care; the answer has been invariably a negative one. The multiplied testimony of to-day goes on record to show that the gynecologist and neurologist are in a common service, removing causes of irritation, believing that the mechanics of the great human machine, restored to its normal equilibrium, will permit the execution of its normal functions.

THE RELATION OF SURGERY TO DIABETES.*

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There exists an intimate relation between diabetes and surgery, principally due to the fact that diabetics are prone to gangrene, and this intimacy, in my opinion, is rendered especially dangerous from the fact that its existence is too often carelessly dealt with, and a great many men have failed to appreciate its importance until they have seen a gangrene follow an operation in which there was apparently nothing present to result in any such course, and it certainly seems to me that insufficient importance is attached to this subject. So far as I have been able to learn, not very much has been written and the standard text-books say but very little. Erichsen makes no reference to diabetic gangrene; I quote the following from "The American Text-book of Surgery," and it is practically all it says: "Individuals suffering from diabetes are frequently attacked with gangrene. Operations on these patients are supposed to be frequently followed by gangrene, and it is advised by some authorities to abstain from operating on these cases if possible. A more extended experience with aseptic surgery, however, will probably not sustain these views."

In Dennis' "System of Surgery," the author admits that diabetic patients are liable to suffer from gangrene, and gives as the reason the fact that the tissues in these patients are weak and are probably in a condition favorable to the growth of germs. He states that the mere presence of sugar does not cause gangrene, but claims that it is due to the accompanying arteriosclerosis. The "International Text-book of Surgery," which has just been published, says nothing in addition to the foregoing. Dr. C. Von Norden makes the following statement: "Wounds of the skin, also deeper wounds, heal more slowly in diabetics." Infection gains access more readily, granulations incline to necrosis, and he thinks that former reports of an unfavorable course of wounds in diabetic subjects are due to infection caused by imperfect surgical technique; he claims that with the asepsis and antisepsis of to-day this has been entirely changed, and that the results are now such that no distinction need be made between diabetics and non-diabetics so far as operating is concerned.

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*Read at the Sixteenth Annual Meeting of the Fifth District Branch of the New York State Medical Association, held in Brooklyn, May 22, 1900.

Dr. Naunyn, in an article on "Diabetes Mellitus," makes the statement that "Septic infection increases the glycosuria, and that in cases of carbuncle, phlegmon, and gangrene the glycosuria at once diminishes and frequently disappears after the abscess has been opened, or the gangrenous member has been removed."

Legroux reports an interesting case. The patient suffered from diabetes insipidus, without a trace of sugar in the urine. He received an injury to the leg, which would not heal, and the wound became gangrenous, and then it was found that the urine contained considerable sugar. This author holds the same views as Von Norden in regard to wounds in diabetics, viz., that with antidiabetic diet and with thorough asepsis and antisepsis the wounds do as well as in non-diabetics; but admits that in fractures the bones in diabetics unite with difficulty. Taking the foregoing as a sample of the literature on the subject, it appears to me that, while there is a direct relation between diabetes and gangrene, the connecting link has not yet been discovered. It is true that these patients often have arteriosclerosis, and other conditions frequently coexist which favor the development of gangrene; still, it is also a fact that gangrene often develops in a case where the only apparent reason therefor is that the patient has diabetes. These are the reasons which in my mind render it advisable to connect diabetes and gangrene in the relation of cause and effect. Two years ago I operated on a patient 58 years of age, for gangrene of the great toe, who also had glycosuria to a marked degree. His general condition was fairly good and he was attending to his work until the condition of his toe forced him to bed. His arteries were moderately atheromatous. In this case I made the mistake of not amputating sufficiently high, as I operated near the proximal end of the metatarsal bone. My object in selecting that point was the fact that experience has taught me to leave the tarsal and carpal joints alone when possible, and in this particular case the foot outside of this toe was apparently in good condition. But whether I was too conservative or not, the fact remains that gangrene promptly set in, and I lost no time in advising an amputation just below the knee, to which the patient readily assented. Anticipating sloughing, I left the flaps long, and the wound open. Gangrene developed in the flaps and they sloughed away, leaving the bone slightly exposed. Finally the wound began to granulate, and I distinctly remember that the healing process went on much more rapidly under the influence of hot charcoal poultices. These I first applied to hasten the slough, and after that I tried nearly everything, such as aristol, iodoform, balsam peru, etc., but nothing stimulated the granulations as these poultices. Since then I have often found that in indolent granulating wounds this treatment gives good satisfaction. This patient to-day is wearing an artificial limb and his general condition is fairly good.

About one year ago, I had a case of phimosis occurring in a man 50 years of age; the foreskin was tight and indurated. I circumcised him and gangrene promptly developed at the seat of the operation; a circumscribed spot also developed on the scrotum, which rapidly spread and caused his death in a few days. This man's arteries were in fairly good condition; his general condition was not good; his urine was loaded with sugar and he claimed to have had diabetes several years. Still he was not confined to his house, but was out most of the time. This is one of the cases which causes me to believe that there is some obscure but certain reason why gangrene so often develops in these cases. Another peculiarity in these patients is the effect which an operation has on them, so far as their glycosuria is concerned, which is not uniform. In the majority of cases the amount of sugar in the urine diminishes as it did in the first case I mentioned, but in other cases the glycosuria increases after an operation, and these patients often die with diabetic coma.

I remember a case in which I amputated in the middle of the forearm for gangrene of the hand occurring in a case of diabetes. The patient was a woman of 45 years of age, and the first suspicion that she had diabetes was when I examined her urine, and she had previously been seen by two medical gentlemen who had simply diagnosed "gangrene of the hand," and without any hesitation advised amputation. Her arteries were in good condition, and certainly not in a condition which would warrant one in attributing the gangrene to any disease of the vessels. After the operation the glycosuria increased and she promptly died, with diabetic coma. This may have been a coincidence; her death by diabetic coma may have been due at that time, and the fact that she had been subjected to an operation may have had no bearing on the result, but I believe that the condition was brought about, at least that it was hastened, by the operation.

The symptoms and signs of diabetic gangrene are so generally well known that it is not necessary to dwell upon them, but the question naturally arises: what shall we do in these cases? Here, as elsewhere, we have to be governed by circumstances, but there are a few rules which I believe it well to follow, and I base them upon the belief that, regardless of asepsis, antisepsis, antidiabetic diet or anything else, there exists a tendency in diabetic patients toward gangrene. Diabetics are not favorable subjects for anesthesia; and the number of cases that have been reported in which the glycosuria was increased after an operation, and several cases in which death resulted from diabetic coma, cause me to feel that we should always make a broad distinction, so far as operating is concerned, between diabetic and non-diabetic subjects. I make it a practice to observe the following rules:

1. I would not operate on any patient suffering from diabetes without first explaining either to the patient or some one in authority the possibilities which might follow.

2. I would refuse to operate on an elderly diabetic subject for any of the simple affections, such as benign tumors, etc., unless there was some special reason for operating, and it is certainly a good rule to always examine the urine in any case of gangrene occurring in elderly people.

3. In the painful, rapidly-spreading gangrene which often occurs in these cases, and which is bound to cause their death if left alone, I believe in prompt and high amputation. As a rule, I wait until a line of demarcation forms; but in some cases, although the line has not formed, one can judge fairly well about how high it is going by the appearance, and in such a case I would operate before the line had actually formed. Some of these cases are inoperable; they may have complete gangrene of the foot, and the leg may be in good condition. Again, the leg may be indurated and boggy, and this condition may extend as high as the knee or above it, and it would be poor judgment to operate on such a case. Another class of cases is the dry, comparatively painless gangrene which often affects the toes in these patients. These cases will often run their course and be cast off,

and as a rule they should be left alone, so far as operations are concerned.

Furuncles and carbuncles frequently occur in diabetic patients. The furuncles will usually succumb to the general treatment for diabetes. In the case of carbuncles, however, surgical treatment such as hot applications and the knife at the proper time are required.

FRACTURE OF THE SUPERIOR MAXILLA IN A MAN 70 YEARS OLD, WITH RECOVERY.*

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The subject of fractures of the superior maxilla must always be of interest to some of the profession. As a general rule, perhaps the injury comes first to the general surgeon, who may or may not call in a skilled dentist to assist him. In many instances, I am afraid a general practitioner is not as well informed in the treatment as he should be from a dental standpoint, and it is not to be wondered at when we consult our text-books or journals of surgery on the subject—the information being exceedingly meager and ancient. It may again be asked: Is the dental surgeon, unless doubly qualified,[1] capable of taking entire charge of such cases, especially as the injury is usually severe and may have complications, as shock, hemorrhage, meningitis and septicemia? The position of a dentist has recently been decided in at least one of the states by the courts. The court maintained that by using the title "dental surgeon" or "dentist," he has the right to treat such cases without fear of being judged unqualified or incompetent. By some, the question of not treating the case in consultation with a dentist and surgeon would be considered wrong. It may be asked if our dental schools are wise in not requiring a better course in oral surgery, with operative demonstrations on cadavers, etc., and at least giving a good training, so that a qualified dentist would be able to treat intelligently the usual class of cases belonging to the head and neck, and not consider a "tooth" as the only occupant of a patient's head.

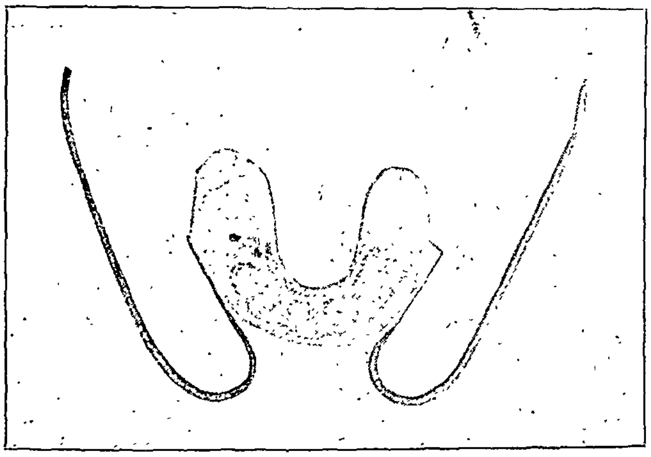

Fig. 1.—Lower Surface of Splint for Mandible to fit in and Holes to Wash Through.

As I previously mentioned, the literature is meager on the subject of such cases. Is it from the rarity of such injuries? Possibly not, for in looking over the reports and bibliography, I soon came to the conclusion that more cases might be found if considerable time could be given, for the classification is so mixed as to make it nearly impossible to avail oneself of those reported. Almost every variety of heading must be looked under, viz., "face, maxillary, maxilla, malar, jaws, crushing injuries, dislocations, nasal bones and surgery." One case I found, by accident, under "Typhoidal Widal Reaction" in the *Index Medicus*. Dr. John S. Marshall, in his work on "Injuries and Surgical Diseases of the Mouth and Jaws," 1897, reported a similar scarcity, finding only 19 cases in the literature within his reach. To these I can add 14 more in the literature I was able to obtain; and one case besides that came under the care of Dr. Bertha E. Bush and myself. I will here give a brief summary of one of the reported cases, to show some of the difficulties in treating it.[2]

J. W., aged 38, injured by the bursting of an emery wheel. Fractures of left malar, nose, and four distinct comminuted fractures of the superior maxilla, two transverse, one in the middle line of mouth and separation of nearly all of the alveoli containing the teeth and a depression of the same of about ½ inch. Seen in a semi-comatose state, in which he remained for hours. Hemorrhage free and shock. On the third day a vulcanite splint was attempted after the manner of the Gunning pattern, patient being etherized for the purpose. The plate had to be removed, as the fragments would not stay well in position at the end of the week. After consideration, ether was again given on the tenth day and the bones drilled, silver wire being used to coaptate the bones; a roller bandage and chin support were used. Liquid was given through a tube, and the mouth was washed twice a day with listerin. The wires were removed the fortieth day, the union being perfect. Patient talked and chewed fairly well, but the range of jaw motion was naturally lessened and there was loss of smell and taste.

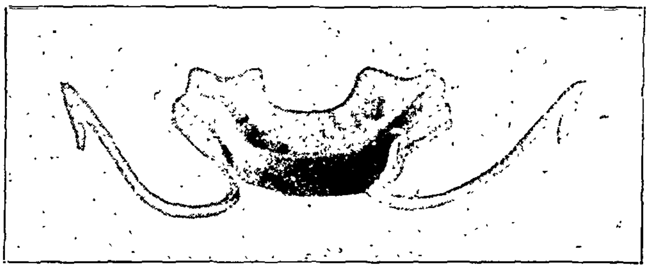

Fig. 2.—Anterior View and Upper Jaw Surface. Marshall Splint.

To the cases already reported I wish to add one recent one which came under my care during the past year. It is as follows:

On Sept. 14, 1899, A. B., aged 71 years, a man of strong physique, good health and habits, received a fall of 25 feet while examining a building. He was standing on a ladder which gave way and went to the ground under him. The patient fell forward, striking his face on one of the rounds of the ladder, nearly transversely at the level of the end of the nose, and also sustaining numerous bruises about the neck and shoulders and a sprain of the left wrist. He walked unaided into a house near by, and though considerably shocked was at no time unconscious. The immediate hemorrhage was very profuse from nose and mouth and continued about one hour. Dr. F. Keefer, who examined the face before much swelling had occurred, and Dr. Bertha E. Bush, of Chicago, found the upper alveolar margin and teeth freely movable en masse up and down as if upon a plate, though the mucous membrane of the mouth was intact except at the upper lip. The nasal and malar bones seemed uninjured and there was no orbital hemorrhage. The vomer, palate and inferior turbinated bones were comminuted, crepitus about the alæ and septum of the nose resembling the "crackling feel of a broken eggshell." During the copious antiseptic irrigations of the nose and mouth, which were repeated every three or four hours in the first few days, the solution could be made to flow with some difficulty from either nostril into the mouth, but clots of blood and mucus, together with the extreme degrees of swelling which promptly ensued, effectually prevented nasal respiration. Deglutition and speech were difficult at first, but never quite impossible. The patient rallied somewhat slowly from the shock, and during the reaction developed a temperature of 101 F., which, however, subsided in less than a week. For twelve days after the accident no retentive appliance was adjusted, the treatment being directed solely to sustaining the patient's strength, relieving pain and keeping the injured parts as clean as possible by sprays, douches and gargles of antiseptic solutions and by wet compresses, principally borolyptol compounds and boracic acid. By this time, swelling had much diminished, there was only slight oozing of blood into the nose and pharynx, and a degree of hardening was perceptible about the floor and walls of the nares and the roof of the mouth. The soft parts were in good condition and no necrosis of bone had occurred. The mouth was habitually open for respiration, although the patient could at times breathe through his left nostril with effort. The face was markedly lengthened in the region of the injury, that is, the nose appeared longer than normal and a little flattened, and the distance from the angles of the mouth to the eyes greater than before. The upper lip was longer (vertically), especially when the mouth was closed. The upper incisors dropped behind the lower on closing the jaws, a condition not usual to the patient previously.

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*Presented to the Section on Stomatology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

[1] Possessing a medical and dental qualification.

[2] Staples, A. F.: Railway Surgeon. Chicago, 1898-9, pp. 133-135.

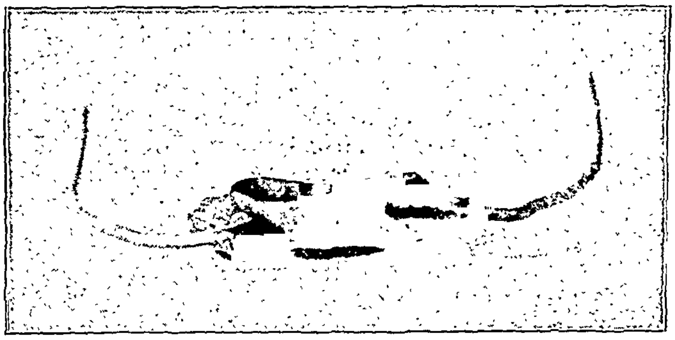

Fig. 3.—Marshall Splint. Anterior View. Slides for Wires.

None of the teeth had been loosened within the alveoli, but the entire row of upper teeth with the anterior portions of the superior maxilla moved freely up and down more than a quarter of an inch, a little lateral movement being also apparent. Pressure on either side of the nose beneath the orbits during the vertical and lateral movements of the upper jaw showed motion of the bony parts at those points, proving that the fracture of the superior maxilla had been far above the alveolar border; that separation from some of their upper articulations was probable. Ten days after the receipt of the injury the patient was brought, by my advice, to Chicago, a distance of 100 miles. He was seen, in consultation with us, by Dr. John S. Marshall, who directed the further treatment. It appeared certain that bony union of the fractured maxilla could not take place unless the fragments were held continuously in position, the anterior separation being fully a quarter of an inch when the mouth was open. Support was not to be derived from any splint or bandage under the lower jaw, owing to the obstructed respiration when the mouth was closed. It was therefore determined to retain the loosened fragment in position by an interdental splint supported from the vertex, after the method described by Dr. J. S. Marshall, in his work on "Injuries and Surgical Diseases of the Face, Mouth and Jaws." On Sept. 24, 1899, the models were taken in modeling compound, and the following day a rubber plate was made to fit over the upper teeth, with spaces into which the lower teeth might close accurately. On each side of the plate a grooved piece of metal was imbedded and into each groove a wire spring was slid from before backward, the wire being bent on itself so that its shorter end occupied the groove in the plate and the longer end extended back four or five inches with its tips bent down. These two wires were easily slipped into place, after the plate was adjusted in the mouth, the wires passing out of the mouth opposite the cuspid teeth. A cap of netting and leather was made, with properly placed loops and buckles for adjusting the straps fastened to the wire springs. (See Figs. 1 and 3.) The apparatus was applied September 26, on the twelfth day after the accident and was worn day and night for three weeks, after which it was removed at night and worn in the day time for another week—Fig. 4. On removal of the support, union was found to be firm with only slight deformity, viz., a lengthening of the middle portion of the face. The patient could eat solid food, breathe with the mouth closed and complained of no pain except a numbness of the roof of his mouth and slight impairment of the senses of smell and taste—which is still present, eight months later. He gained in weight and strength and was able to work.

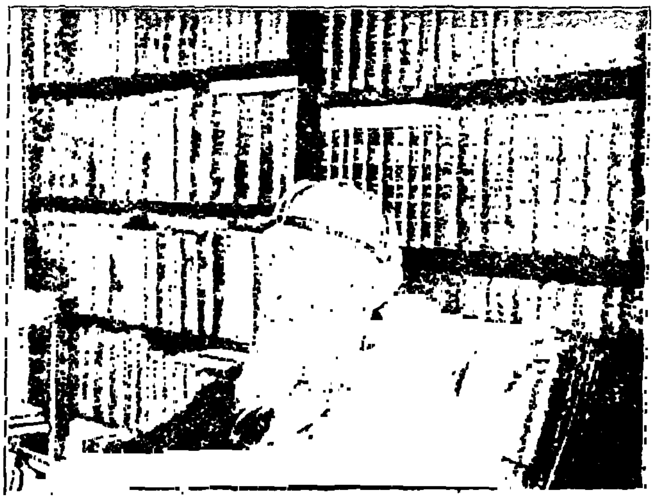

Fig. 4.—Fracture of Superior Maxilla and Vomer Bone, etc. Marshall Splint.

There are certain points in this case which are of interest to the general as well as to the dental surgeon:

1. The disadvantage of trying to use bandages, occipitofrontal and occipitomental, and the discomfort of a chin bandage.

2. The difficulty of respiration and danger of malocclusion, which latter must never be lost sight of and every effort made to secure perfect or as nearly perfect occlusion as possible.

3. The lack of perfect support to the jaw if wired only, and the need in many instances of an anesthetic for the same.

4. The guide which the interdental splint gives to

the mandible for correct occlusion, and hence chance to note any dropping or displacement of the splint.

5. The disadvantages of the plate are so few that they may be easily remedied, on account of its adaptability, and they differ with the patient's disposition: 1, the feeling of tightness around the head, which may give headache if not adjusted; 2, the slipping of the side tapes until the balancing point was found, can be remedied by making a downward curve (Fig. 5), bend or points in the wire, as seen in the diagrams.

6. The cap must be a good and accurate fit, the vertex leather not coming too low down to the ears.

7. The advantages of lightness, air through the mesh over the hair, use of non-corroding metal for the bars and sockets, or nickel-plating, the ease with which the plate may be slipped out and cleaned while the douching and irrigation is being done.

8. The advantage of drilling several holes in the sides and through the alveolar part of the plate so that syringing with water and antiseptics can be done, when the plate is put in, to get rid of particles of food.

9. The greater variety of solid food that the patient can eat, as it can be crushed by the tongue against the plate.

10. The bilateral, almost symmetric injury, giving no point of support within the oral cavity, yet resulting in very slight alteration of the face after recovery.

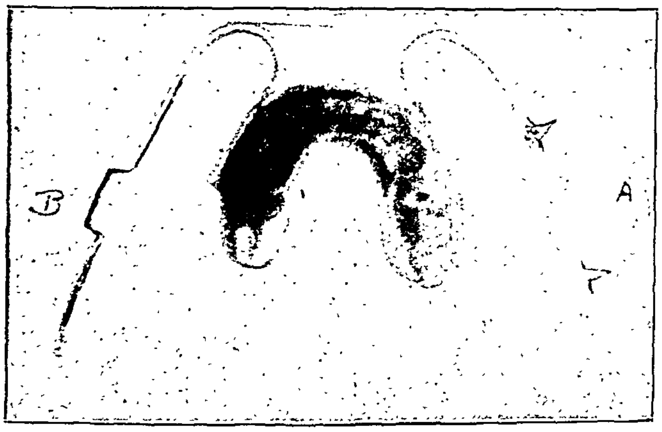

Fig. 5.—A.—Diagram of Points to Prevent Tapes Slipping. B.—Diagram of Bend.

11. This form of splint, a modification of Kingsley's, has this advantage over others, it can be vulcanized in an ordinary flask and the metal bars slipped in after the plate is polished.

12. Lastly the age of the man, being the oldest recorded case of recovery in the literature at my command.

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THE PHYSIOLOGIC TRAINING OF THE FEEBLE-MINDED.*

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American institutions for the care and training of the feeble-minded are the results of a little more than a half-century of the work begun abroad by various observers in a semi-scientific manner, it being reserved for the elder Seguin, a student of Itard and Esquirol—the French pioneer workers—to formulate a system from dilettantism. The year 1848 saw the beginning in this country of Seguin's enthusiastic, brilliant work, inspiring American workers—a beginning that places Wilbur, Brown, Knight, Kerlin and Richards almost side by side with Seguin; that saw two institutions in as many states multiplied in 1900 to 19 state and 10 private institutions, caring for a total of nearly 8000 feeble-minded persons. It is true that Seguin's methods of training the feeble-minded are yet considered the best, being founded on the only true method of all teaching—the physiologic—the only system that takes cognizance of the individual and the only system that prevents both student and teacher from becoming mere machines. Seguin died before he saw more than the beginning, in this land of his adoption, of a work for which he practically gave his life, but he left behind him a valuable legacy in the hands of brainy men, quite as enthusiastic as himself, and while the so-called physiologic system of training the feeble-minded still stands an enduring monument to a talented man, American talent has widened and extended the scope of the system far beyond the anticipations of its inventor.

Primarily, observers of the mentally deficient worked purely from philanthropic motives; later, from the standpoint that many such individuals were simply isolated from normal men by deprivation of proper training, and still later Seguin defined idiocy and apparently recognized somewhat indistinctly several types that differed from actual idiocy, types now definitely classified—thus:

1. Imbecile....	Mentally deficient Mentally and morally deficient..	High grade.. Middle grade.. Low grade..	Educable.
2. Idio-imbecile..........			
3. Idiot..........			Non-educable.

It is unfortunate that we have not yet as a people recognized the anatomic deficiencies of our feeble-minded charges as being of paramount importance in prognosis. Fostered by ignorant persons, interested only in securing large fees for impossible though promised results, advertised by yellow journalism, the idea of *cure* is yet prominent, notwithstanding the absolute fact that we have in all cases an inherent deficiency, beyond the reach of surgery or medicine to restore. Whatever share of active nerve-center is present may perhaps be acted on, but if a normal standard is a whole, no fractional part can ever be equal to the whole. This to-day stands like a wall barring the progress of our work as a factor in the system of public education.

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*Presented to the Section on Diseases of Children, in a Symposium on The Feeble-Minded and Nervous Diseases, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

Even the marvelous attainments of individuals like Blind Tom are urged as reasons why imbeciles may be trained so that may eventually become members of the body politic, forgetting that while one or more protrusive talents have raised the individual not only above his more ordinary brothers and sisters in affliction, or even above the average normal man or woman, there still remains the heritage of physical weakness and mental inertia in all save the one development, rendering them incapable of taking their place in the active busy world, handicapping them too heavily in the race for existence, making them useless outside of the fostering care of an institution.

The mere thought of restriction is so repugnant to many that the value of environment is lost to sight. Yet to the defective child of whatever grade of mentality, whether well-to-do, rich or poor, the home environment is as a rule bad. Whether *ego*, in so many cases rampant, is stimulated to an unhealthy growth by too much care, or on the other hand if the child's little meed of mind is crushed out by deprivation of its poor little wants, the results are the same, retrogression and mental apathy. No class of children responds more quickly to the community interests of the institution than the feeble-minded. Many may at first be homesick, but the orderly life, companionship of similar mental attainments, oversight by judicious foster-mothers, the music, the flowers, soon overcome the nostalgia and the warped and twisted human plant soon begins to grow and become more like the standard set by its trainers.

The physiologic system as formulated by Seguin contemplates the use of the hand, the eye and the ear as the avenues of entrance into the undeveloped mind, and demands an early recognition of the condition for its best results. The feeble-minded child as a rule is a creature of habit, and these habits are distorted from the normal by reason of the deficient or defective co-ordinate powers. Experience has proved the difficulty of overcoming the automatic or mechanical habits even in the young and of short standing, hence the advantage of placing the erring centers and muscles under regular systematic training at an early period in life.

The kindergarten has proved of great importance not only in the training of the young subnormal, but in the diagnosis of the youthful defective. The trained kindergartener can hardly fail in recognizing both moral and mental deficiencies in her classes from the very nature of the methods employed.

Nature studies and object-lessons follow in natural sequence, then sloyd and manual training, all aiding in mental stimulus and muscular activity. The underlying principle of our present system is to develop, by every available method, the ability to think and to do. If the state is to assume life-care of its feeble-minded population, it must endeavor to develop as many earners as possible. The asylum will contain the drones, those incompetents who will always be in debt for their existence; the training-school and the colony must return to the state as much of their cost as possible, and this can be done only by systematic application of intelligent exercises, devised to stimulate a desire to do something that may be of use to others. This carries the boy or girl through the kindergarten and the class-room into the shops; those unable to keep along with others, reaching their limit of attainment, may still find room for employment in the more simple work of the farm, the garden or other duties needing a minimum of mental exertion, but still giving enough muscular work to prevent retrogression.

The ever widening horizon of this physiologic training has each year taken in every modern development of educational facilities. Of these, manual training as now seen in our numerous polytechnic institutions is one of the most important systems yet devised, and while yet in its infancy as an adjunct to our institutions for the feeble-minded, is each year assuming greater proportions. In its application to normal children, it proves an important agent in detecting mental and physical defects; in its application to the subnormal child, it is equally important in counteracting these defects. A writer has said: "What orthopedic surgery is to the body, such, I believe, manual training in childhood is to the mind." Twenty years of work among the feeble-minded leads me to think we have only seen the beginning of what the future will see of the results from manual training in our institutions.

It is even now a question of serious importance whether we have not paid too much attention to mere school training. If we are to assume the life-care of the feeble-minded, the question of an individual ability to earn all or a part of his or her support must be carefully considered and in this relation mental cramming can not be considered a factor in the ability to earn. Certainly there are at least those of one class, the moral imbeciles, even if their environment is to be permanently restrictive, that should not be too highly educated in the sense of knowledge imparted. Many of this class stand on the border-line of insanity and I am certain that to some might be said that which was said to St. Paul: "Much learning hath made thee mad."

It is not intended to make persons afflicted mentally prisoners for life at hard labor. Such are taught to work because it is wrong to be idle, and in the colony of defectives, free from the ever-present problem of whence their daily bread shall come, the grim specter of the self-dependent workman, they can labor through work hours, and be in position to enjoy the recreations and amusements provided under the same schedule that calls them to work.

Now, if this system of physiologic training is correct, and there seems to be no reason to doubt its efficiency, what can be urged for the future, judging by the results of the past?

1. The state owes its mental defectives proper care and training, and a proper consideration of the normal and subnormal demands life-guardianship of those unable to support themselves in the outside world and a bond on the part of the well-to-do that provision shall be made for the support of their feeble-minded progeny.

2. The enormous increase in the number of this class of incompetents urges a closer attention to the proper enumeration of all such defectives in each state, their registration on the files of state boards of health, and penalizing both parties to a marriage contract, in which one is known to be feeble-minded.

The question of asexualizing both sexes of the feeble-minded has been considered, but the proposition that contemplates such surgical procedure where no pathologic condition exists beyond the mental deficiency is too extreme to be practical. Granting that the female is the only sex to be considered, the radical obliteration of her ability to procreate other imbeciles seems to me to argue our inability to properly care for her. And if we produce such a condition, simply to relieve ourselves of the protection she deserves, we are licensing an evil condition, and if her condition was known, throwing a veritable firebrand into the community. Procreation is not the worst evil that can obtain from the contact of sexes where one is weak, the other an unmitigated scoundrel.

3. Experience has proved the value of early recogtion of mental deficiency, and application of proper training, hence the value of expert examination of school children, especially the so-called "incorrigibles," "truants," "juvenile delinquents," et al, and their grouping either in state institutions for the feeble-minded or in special classes under special instructors.

4. Our normal schools should make the study of training backward and mentally deficient children a compulsory and thorough course, that our public school teachers may be better able to co-operate with the medical examiner in detecting signs of mental deficiencies, and thus aid in weeding out the defectives from the ordinary schools.

5. The system of manual training as pursued in our polytechnic schools is one that is advantageously used in our institutions for the feeble-minded, and at least one-third the schedule time of school work might be passed in properly equipped shops with advantage.

6. Purely abstract education should be limited to the highest grades, and where these show signs of moral obliquity, every effort should be made to advance the physical rather than the mental development.

KERATOLYSIS OR "SKIN-SHEDDING."

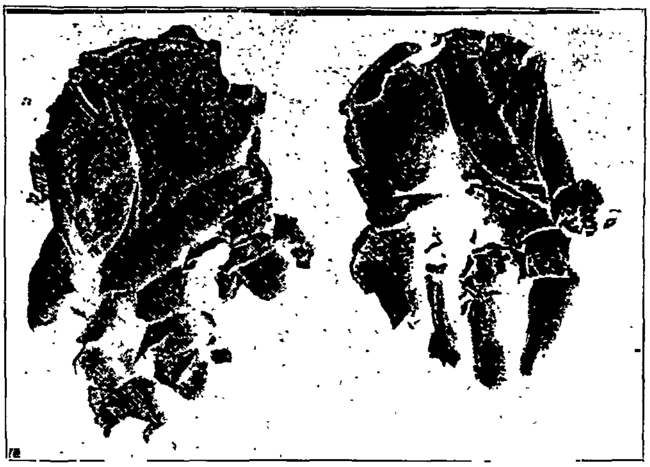
R. M. STONE, M.D.
OMAHA, NEB.

I had the good fortune recently to see one of the rare cases of "skin-shedders." This was a man of 50, strong, hearty, quite intelligent and entertaining in his description of his peculiar condition.

Family History.—He comes of a long-lived race, two of his grandparents having reached over 100 and his father being alive at about 90. He has six living brothers and sisters. No one of his family has ever been known to shed his skin.

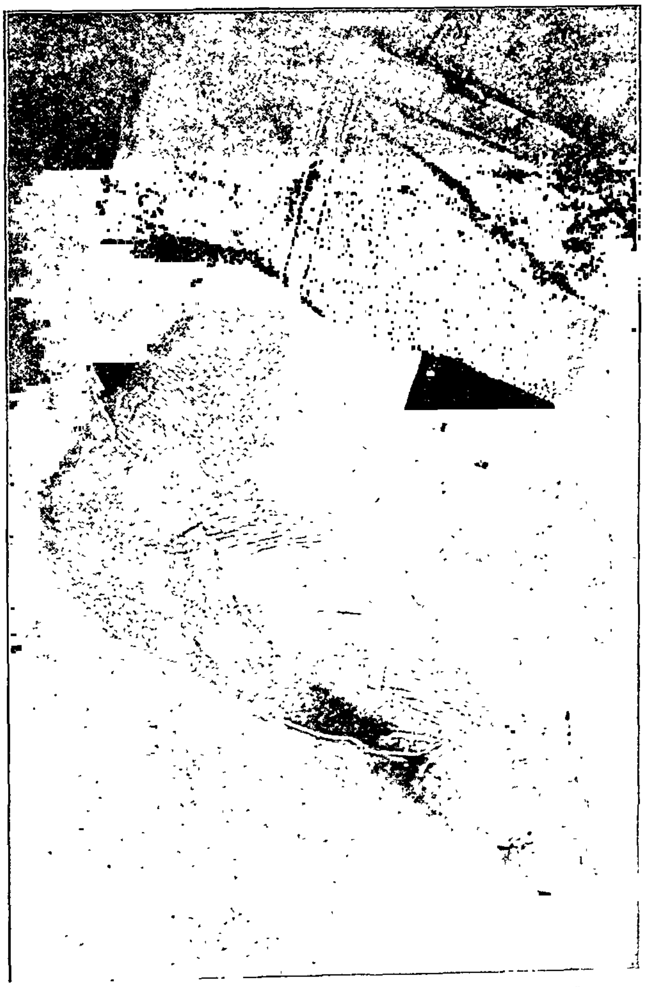
Personal History.—His parents told him that he was born in May, 1849, and that he shed all his skin in the July following, and every year of his childhood. Since he has reached years of ability to remember, he states that he has shed all the skin of his body every summer and, in the years 1893, 1894, 1899 and 1900, has shed it the second time about a month later than the first shedding.

The period of shedding is ushered in by a feeling of malaise and chilliness, followed by fever, which has risen as high as 103 F. The skin of the body generally scales off, while that of the palms, elbows, buttocks, penis and scrotum, the knee-caps and feet comes off in mass. The hair of the head, the eyebrows and his moustache all are lost. He is not rendered bald each year by the loss of hair, but it comes out little by little as it does after typhoid fever. A few times only has there been a shedding of masses of the skin of the legs. The nails of the hands and feet participate in the shedding. The new nail is, as would be expected, more sensitive than any other part of the body, and somewhat slower in renewal. In general, the body is not very sensitive, for he is able to work right through it if he wishes. Forty-eight hours after he has shed he can take a full cold bath without discomfort or danger.



He sometimes wears gloves for a day or two after the shedding.

When the skin begins to shed, the perspiration ceases to pass through to the outside and raises up the epidermis, which dries and becomes somewhat hard before it is cast off. When this is struck with a pencil it gives off a sound as of striking a piece of celluloid.



He spent twelve years in the regular army, and supposes that his case was reported to the surgeon-general.

He has been examined by many physicians, but has never been able to secure any suggestions as to relief from the annoyance. He has never taken any medicine other than a little quinine for the fever present during the process.

To-day he has nearly completed the shedding; this year he has gone through two periods, and has three coats of skin on his body at places. The heels are just about to lose a very heavy layer, and beneath it can be seen a layer less heavy which is peeling, and yet beneath it is a new skin entirely normal.

The case is one of keratolysis, and is described and illustrated best in "Anomalies and Curiosities of Medicine," by Gould and Pyle.

IMPERFECT DEVELOPMENT.

REPORT OF A CASE OF LACK OF DEVELOPMENT OF THE RIGHT SIDE OF HEAD WITH CONGENITAL MICROPHTHALMUS, COLOBOMA IRIDIS, LACK OF EXTERNAL AUDITORY CANAL AND IMPERFECT FORMATION OF AURICLE.

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LA FAYETTE, IND.

Dr. George K. Throckmorton, of this city, kindly called my attention to the above case about eighteen months ago. At my earliest convenience thereafter the patient was visited and inspected. It is a matter of great regret that no photographs accompany this description. Before the arrangements could be completed for taking the child's photographs it died.

At the time of the visit to Mr. G.'s house we found a seventeen-months child. The right side of the head was about two-thirds that of the left side, the latter being perfectly developed. The right eye was microphthalmic with coloboma of the iris downward. The coloboma was quite large. The eye was apparently blind.

No vestige of the right bony auditory canal could be detected. There was only a slight depression in the temporal bone, and that was covered with skin. Of the auricle, the lobe, tragus, antitragus and inferior portions of the helix and antihelix were wanting. The child had a mouth like a catfish. Both maxillary bones showed a fairly perfect development on the left side, but imperfect on the right side. What teeth the child had were imperfect and had not appeared in the usual order.

The right side of the body showed a lack of development, the arm and leg being markedly smaller than those on the left side. Otherwise the development was normal. The condition as noted in the child is very rare, and on this account is reported.

Concerning absence of the lobule, with absence of the external auditory canal, a case has been reported by Szenes.[1]

American Medical Association Meeting.—There was a notable lack of such experiences as have caused some members to vow that they never would attend a meeting of the Association, if held in a city of less than 200,000 inhabitants, and those who staid away this year on account of such a vow should be told about it. The fact is that the number of permanent inhabitants in a city has very little connection with the extent of its hotel accommodations, and gives very little indication of its capacity for handling a convention. This suggests the question: Is the nominating committee, as at present constituted, the best possible body for investigating the suitableness of a place for a meeting of The American Medical Association? Its members are chosen one day, meet the next, and often complete their labors at a single sitting. They have so many other things to do, that in the absence of better reasons the "I've helped you, now you help me" argument has too much weight. Lacking time to study and think about the question, lected to urge the claims of their respective cities that a wise the committee is so largely at the mercy of the orators sejudgment must be almost impossible. This can all be said this year without seeming invidious, for although other places talked about it, St. Paul was the only city that had nerve enough to come into the committee with a formal invitation for the meeting, and to urge its acceptance. It would at least be wise to expect henceforth, that a city aspiring to this honor should, through The Journal, extend its formal invitation, and explain its abilities to do well what it wished to undertake, as Denver did, several weeks prior to the meeting of The Association. And in the putting forward of its claims, the situation and capacity of its hotels should be given prominent mention, rather than the number of its inhabitants. It is interesting to note that in the table of membership, submitted by the trustees in their annual report, Colorado has 327 members, a number exceeded by only seven other states, while only Pennsylvania, Illinois and Ohio have over 500 members each. Unquestionably, for her population, or for the number of her physicians, Colorado furnishes a larger number of members to The Association or any of its sections, and but one member of one committee was from Colorado. There seems to be no reason for this except excessive modesty on the part of the Colorado members, and indifference to the way in which the affairs of The Association are conducted. For instance, when the time came at which, according to the program, "Delegates from the various states meet in the places designated, for the purpose of electing one member from each state on the nominating committee," one solitary member from Colorado sat in the place designated, and listened to the pushing, and caucusing and vociferating of the delegations from other states around him. Then, when the allotted time had expired, not knowing who else from Colorado was in attendance, this solitary delegate sought the secretary and—at great strain to the modesty above mentioned—handed in his own name, that the state might not go wholly unrepresented. There is no reason either in lack of ability or in the attitude of delegates from other sections toward Colorado members why they should not take their fair share of the official life and honors of The Association. A wholly impromptu and unsupported attempt came within one vote of capturing for the state the Oration in Medicine, an opportunity which rightly used would be worth much to Colorado and more still to the profession and the people of other sections of the country. The mere medical politician may be the bane of our professional organization, but his opportunity lies wholly in the neglect of the better members of the profession to give sufficient time and attention to the essential details of organization.—*Denver Medical Times (August).*

Hematolysis Test of Molecular Concentration of Blood.—Changes in the molecular concentration of the blood and in its osmotic pressure can be tested by the hematolysis which occurs in solutions of sodium chlorid or nitrate in varying concentrations. It is a more sensitive test than determination of the freezing-point, and requires only a minute quantity of blood. Teissier derived important conclusions from it for his address on "Edema of the Lung" at the International Congress. He compared the hematolysis in blood drawn before and during experimental edema and thus estimated the decrease in the resistance of the corpuscles and the increase in the total molecular concentration of the blood under the influence of the pathogenetic intoxication. Defibrinated blood, 1 c.c., was added to 20 c.c. of one of the solutions in each of the ten test-tubes. The fluid was stained by the hemoglobin diffused by "*laquage*" in case of hematolysis. It first appeared in the 45 per cent. chlorid and 65 per cent. nitrate solution. As the edema progressed, hematolysis was apparent even in the 60 per cent. chlorid and the 75 per cent. nitrate solution.

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[1] Archiv f. Ohrenheilkunde, Vol. xxiv, p. 185; Dench: Burnett's System of Dis. of Ear, Nose and Throat, Vol. i.

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ANALGESIA FROM COCAINIZATION OF THE SPINAL CORD.

One of the outcomes of the International Medical Congress at Paris is the widespread popular interest in what the newspapers and to some extent the medical profession apparently accept as a new and epoch-making discovery in anesthesia. Professor Tuffier, of Paris, is announced as having made the discovery in March last that injections of a 2 per cent. solution of cocain into the spinal canal in the lumbar region is a safe and speedy way of producing what may be called a generalized local anesthesia, involving the lower limbs and to a greater or less extent the trunk, so that capital operations can be performed painlessly, but with full consciousness on the part of the patient. This removes from their places ether and chloroform as the indispensable anesthetics for the majority of surgical procedures, together with all their inconveniences and dangers. Not only surgery but obstetrics will be debtor to this discovery and it is announced as opening up a new epoch in medicine.

It is almost a pity to spoil a sensational announcement like this with bare facts that show that the new discovery is not by any means a new one, and that Professor Tuffier is not only not the discoverer but even not the first, merely the second, adapter and utilizer of the method. It is common enough that when some great fact is announced, some one will claim to have known it before, but in most cases with only such imperfect appreciation of its importance as not to detract from the last discoverer's merit. The knee-jerk had been a plaything of children from time immemorial until at last Westphal first pointed out its pathologic significance. Many Portuguese traders had probably traveled Central Africa, but they never gave their knowledge to the world, and Livingstone's and Stanley's renown was none the less well earned. The case is different, however, when a scientific man publishes in a scientific publication a fact that passes unnoticed until some late worker takes it up and popularizes it, so to speak; it is then our duty to recognize the service performed by the original investigator and not let the credit be misappropriated by one who, while he may have independently discovered the fact, has not real claim to priority.

The present instance is in point; neither Tuffier nor his predecessor, Bier, can rightly claim the origination of the method, which we owe to our fellow countryman, Dr. Leonard Corning, who, in his papers in the *New York Medical Journal* in 1885 and 1888, and his work on "Pain" published in 1894, left little to be developed of the method and technique of spinal analgesia. Not being a surgeon, he did not apply it directly to surgical procedures, but this does not impair his credit as the original discoverer. Its surgical application is a natural corollary to his pain-obtunding utilization of the method, and he has shown that it has a wider usefulness than merely a surgical one. Tuffier has simply extended Bier's application of Corning's discovery and neither of them can rightly claim to be its originator.

These facts have been published before. They were noted by Matas in his review of the surgery of the half century in the semi-centennial issue of THE JOURNAL published last year, as well as editorially in the *Medical Record* of August 5, 1899, and in THE JOURNAL of August 26, 1899. There has been no lack of opportunity for Bier or Tuffier to know these facts; they were not given out in obscure publications, but in leading journals and in a widely noticed work. It is perhaps only an instance of the truth recently noted by Virchow, of the superficial knowledge of many modern investigators in his and other countries as regards research to what others, especialy Americans, have done.

Whether this method, as adapted from Corning by Bier and Tuffier, is to work out the promised revolution in surgery and make a new epoch, time alone can decide; it is yet too new for positive predictions. It may be a question whether it will displace the time-honored anesthetics as fully as some may expect. But it does seem to promise at present a large addition to our surgical resources, and if further experience reveals no drawbacks to its use, no immediate or remote dangers of spinal cocainization, we can hardly overestimate its value. In this connection we refer to Dr. Murphy's communication in another column[1] showing in detail its latest developments in the hands of Professor Tuffier, and in which Dr. Murphy also gives his own experience.

THE REGISTRATION OF TUBERCULOSIS.

Concerning the dependence of tuberculosis on the tubercle bacillus, and the transmissibility of the disease, there is no longer any serious difference of opinion. The quibble as to whether we shall employ the qualification "infectious" or "contagious," as applied to tuberculosis, may now be relegated into obscurity. An infectious disease is one that is dependent on a specific cause that is capable of indefinite multiplication and through which it is susceptible of unlimited reproduction. Such a disease is necessarily transmissible or communicable by direct contact, through the intermediation of air, water, food, or other fomites, or a third person not necessarily suffering from the disease, but like the inanimate intermediaries acting only as a carrier of the infective material. In the category of such diseases belongs, among others, tuberculosis. Now, the especial danger of tuberculosis lies in the fact that the infective agents on which the morbid process depends are given off with the expectoration in cases in which the lungs are the seat of the disease; and, through only such carelessness, indifference or ignorance, as it can not be hoped the ordinary human being will ever be wholly freed from, the opportunities for diffusion will always be quite considerable, unless special restrictive measures are made operative.

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[1] P. 572.

Being communicable, tuberculosis is to a certain extent preventable. All that would be necessary to bring this about would be the destruction of the causative agents or the cutting off of the channels through which they are conveyed. In both of these directions some progress has been made. The most practical means at our command looking to the fulfilment of these objects consists in isolation of the sick and disinfection of their discharges. In order to accomplish these purposes, however, it is obviously necessary to have cognizance of the cases, as well as the house, in which the disease exists. The methods to be pursued as an outcome of the knowledge thus acquired must have nothing of an inquisitorial or persecutory character, and there can be no thought of ruthlessly separating from their families unwilling tuberculous patients. Opportunity for isolation should, however, be afforded, but it must be made as attractive as possible for those who see the wisdom of it, not alone for the sake of those by whom they are surrounded, but also from the larger hope of improvement and recovery under the most favorable conditions for treatment. With regard to others, there should be some assurance that they shall not continue a menace to their neighbors or to the community in general. They should be taught, in however homely and simple a manner, the principles and the methods of prophylaxis, and they should be urged to practice them.

One step in the direction of these reforms would be the registration with boards of health of cases of tuberculosis that come to the knowledge of physicians. This has been undertaken in some cities. It would be well if it could be known where are the foci of disease, and, with this knowledge, enforce, humanely of course, the two main principles of preventive medicine, namely isolation and disinfection. For this purpose it would be necessary that cases be reported to some central authority, such as a board of health, and that proper steps be taken by such body in accordance with modern hygienic requirements.

THE FAUCIAL TONSILS AS POINTS OF ENTRANCE OF TUBERCULOSIS IN YOUNG CHILDREN.

The tonsils have been receiving a great deal of attention of late, because they are regarded as a possible and a probably rather frequent place of entrance of infections of various kinds. Diphtheria, scarlet fever, acute rheumatism, pyemia, and numerous other infectious diseases, all stand in more or less close relation to the tonsils. It has long been thought that tuberculosis—the most widespread of all infections—may gain entrance through the tonsils, especially in the young, in whom tuberculosis of the cervical glands is so common. Much has been written about this question, and its various phases have been quite fully discussed. Still, the subject can hardly be regarded as exhausted. Systematic studies on a large scale are best calculated to place the facts in regard to questions like this in their true light. Friedmann[1] reports the results of an extensive investigation covering the tonsils of 91 children examined after death, and of 54 living children whose tonsils were removed by tonsillectomy. It is necessary to exclude hematogenous and lymphogenous tuberculosis of the tonsils before a tonsillar tuberculosis may be interpreted as the result of a primary infection from without. This is easily done, because there is as yet no instance in which tuberculosis of the tonsils has been demonstrated to originate from the blood or lymph—Friedmann.

Infection from without may be primary and introduced by the food, and possibly under exceptional circumstances by way of inspired air; or it may be secondary and result from contact with bacillary sputum. Friedmann has several cases in which tuberculosis of the tonsils very likely developed from tuberculous food and milk. There is one case especially noteworthy: a marked tuberculosis of the tonsils without any other foci in the body. Friedmann regards it as quite certain that in childhood tonsillar tuberculosis is as frequently the primary result of infectious food as secondary from bacillary sputum. Tubercle bacilli lodged upon the surface or in the lacunæ of the tonsils are carried into their interior in the same way as solid pigment particles have been shown to be imported into the substance of the tonsils. From tuberculous tonsils an extensive invasion of the cervical or thoracic lymph-glands may develop. This Friedmann showed both in the living and the dead. In cases of cervical lymphatic tuberculosis, scars are often present in the tonsils, and these scars probably represent a healed tuberculosis. It is not likely that the tonsils constitute the entrance-point of infection without themselves becoming tuberculous, because Friedmann failed to find bacilli in non-tuberculous tissue. This corroborates Baumgarten's law that wherever bacilli enter, tuberculous changes result.

The general conclusions to be drawn from Friedmann's study are: In young children tuberculous invasion of the tonsils is of considerable importance, especially as to cervical glandular tuberculosis; and the infection is introduced in the food. In the end, we again are brought up before the fact that prevention is more important than efforts at cure.

The next International Medical Congress will be held at Madrid in 1903. Professor Calleja was elected president, and Dr. F. Caro, inspector-general of the Spanish navy, secretary-general.

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[1] Ziegler's Beiträge, 1900, xxviii, 66-133.

HYSTERICAL PYREXIA.

Good definitions are wanting for both inflammation and fever. Each represents a morbid process of which the manifestations are, in general, well known. The one would appear to be the result of the local reaction of the tisues to certain irritants, while the other would seem to be the result of the entrance into the circulation of chemical substances capable of causing derangement of physiologic equilibrium. Perhaps the most distinctive feature of the febrile process is elevation of temperature. The two have, in fact, even been considered synonymous, but from the view-point of precision, it were better to distinguish the latter as pyrexia. Bearing this distinction in mind, the question may be fairly raised whether fever is ever unattended with elevation of temperature, and the evidence would suggest an affirmative answer; for there are on record isolated observations in which febrile diseases, such as typhoid and scarlet fevers, have pursued their course with slight, and even with no, pyrexia. It may, therefore, be inferred that the manifestations of fever are due to reactions excited by the products of abnormal metabolism, and that the presence or absence of any of those manifestations, such as elevation of temperature, will be governed by the presence or absence of certain definite chemical principles generated within the body, or even introduced from without. The individual susceptibility, in this connection, must obviously be quite variable. Thus, it is known that children, by reason of the greater instability of their nervous system, readily exhibit elevation of temperature on slight provocation; and the same is true, within limits, of emotional and mobile adults. It is, therefore, not surprising that the possibility of hysterical fever has been suggested, meaning more specially, hysterical pyrexia, and observations pointing in this direction have been placed on record.

After discussing some of the phases of this subject and citing a few cases from recent literature, Kobler[1] reports two illustrative instances under his own observation. The one occurred in a baker, 21 years old, who was seized repeatedly with hysterical convulsions and exhibited elevation of temperature between 102.6 and 107.6, without acceleration of pulse. Improvement in all of the symptoms followed a threat to place the patient in a bath of ice-water. The second case occurred in a girl, 11 years old, who presented attacks of screaming, with pain referred to the ileocecal region, motor aphasia, and elevation of temperature, ranging between 103.8 and 105.4, the symptoms setting in suddenly and subsiding with equal suddenness. After varied treatment, improvement followed only the threat of surgical intervention. The evidence thus seems to indicate that elevation of temperature may be of hysterical origin; but care must, of course, be taken to see that the registration of the thermometer be not induced by artificial means, and also that all other possible causes of pyrexia be excluded, or at least guarded against.

"OLD AGE WITHOUT DOCTORS."

Recently a lady died in Chicago who had attained the distinction of having lived over a hundred years. As is usual in such cases, the lay press proceeded to give the reasons why she had lived so long. Among these, the one given most prominence was the alleged fact that she had taken no medicine nor consulted a physician since she was 18 years old. This was twisted and enlarged on by other journals until it has appeared in a majority of the newspapers of the country, and has made a text for many an editorial against the doctors. An investigation, however, spoils the whole story, for it shows that the old lady had been under the care of the same physician for twenty-seven years, that for the past fifteen he had attended her for illness at least every three months, and all this time her life had been regulated by his advice. Verily, the evolutions of the inner consciousness of the average reporter evolve strange things, and his imagination beholdeth many things that are not!

THE EQUIPMENT OF THE MODERN PHYSICIAN.

The requirements of the scientific physician are yearly growing more exacting. Precision in observation and intelligence in treatment have become essentials in the modern practice of the art of medicine. The trend of current opinion in this connection is well indicated in an admirable and scholarly address delivered recently before the Ontario Medical Association by Dr. Lewellyn F. Barker,[1] late associate professor of pathology in the Johns Hopkins University, and now professor of anatomy in Rush Medical College, who states that were a medical student, suited by heredity and environment, to look forward to the higher things in medicine, to ask the question, "How can I best fit myself to make real advances in knowledge in medicine and therapy during the next twenty-five years?" he should say, "In addition to a thorough medical course, arm yourself with sufficient mathematics and gain a thorough theoretical and practical training in the methods of physics and chemistry, and especially in the principles and methods of what is called physical chemistry. After this, turn your attention to the solution of medical problems."

THE INCIDENCE OF PHTHISIS.

On another page of this issue is given an abstract from the *British Medical Journal* of a paper by Sir H. R. Beevor that is suggestive and noteworthy. Assuming that the death-rate is the most reliable index of the incidence of phthisis, he takes the little rural districts as affording the most stable conditions of population and environment and shows a uniformity in the statistics of phthisis that seem to him the "most cogent evidence of the insignificance of case-to-case infection; the rates are far too regular for so variable a factor to be the determining factor." He quotes Andvord, who from a careful inquiry into the tuberculous deaths in five Swedish towns for sixteen years came to the same conclusion. It seems from the studies of both of these observers that other contributing causes, and more especially predispositions, are the ruling factors in the phthisis mortality. Contagion, of course, must be admitted as possible, but it cuts no figure in the general statistics, according to these authorities. The figures and diagrams of Dr. Beevor are most encouraging in that they show an almost uniform decrease in this mortality for each of the three decades between 1860 and 1890, due, it seems, to better modes of living and diet and corresponding increase of physical stamina. Infection alone is significant enough, he says, as a pathologic factor, but it is other contributory causes that really determine when the disease shall manifest itself.

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[1] Wiener Med. Woch., June 23, 1900, p. 1265.

[1] Johns Hopkins Hospital Bulletin, July-August, 1900.

SPONTANEOUS GANGRENE.

The disease known as spontaneous gangrene develops in the young and in strong adults. Usually there is no history of any special, preceding illness. Preceded by the rheumatoid pains and circulatory disturbances in first one and then the other lower extremity, and by a tendency to exhaustion on slight exertion, evidences of gangrene appear in some peripheral part of the extremity most affected. Occasionally the disease may affect the upper limbs. All therapeutic measures are fruitless, and amputation must be resorted to either on account of the extent of the gangrene or on account of the pain. The amputation must be made high above the limit of the gangrene, because the arteries are more or less completely occluded far above the diseased territory. Microscopically the vessels, especially the arteries, are narrowed or occluded by connective-tissue growth on part of the intima—a productive, obliterative endarteritis. The media often appears thickened. Evidences of calcification and degeneration are usually but little marked. The explanations advanced in regard to the endarteritis of spontaneous gangrene have not been satisfactory, hence their number has rapidly multiplied. The cases have occurred mostly in certain parts of Russia and Austria. Sternberg[1] reviews the whole subject of endarterial connective-tissue growth and reaches the conclusion that for the present the endarteritis of spontaneous gangrene is best explained according to Thoma's general law that whenever a vessel, owing to dilatation or other causes, becomes too large for the territory it supplies, a compensatory narrowing produced by intimal thickening results. Owing to congenital weakness, or to the great strain to which the arteries of the lower extremities are exposed, dilatation followed by endarteritis results. So far this explanation is plausible. But it does not make it clear why the endarteritis, a compensatory and regulative process, proceeds to complete occlusion of the vessels and thus causes gangrene, a condition far worse than the one it is assumed to relieve in the earlier stages of its development. The pain characteristic of spontaneous gangrene is ascribed by some to irritation of cutaneous sense-organs by the circulatory disturbances, by others its origin is referred to the Pacinian corpuscles in the adventitia of blood-vessels.

SEPTICOPYEMIA, SIMULATING BUBONIC PEST, AND CAUSED BY AN ANAEROBIC BACILLUS.

There are but few anaërobic pathogenic organisms as far as we know, but it is very likely that instances of such infections *escape recognition* often because not examined systematically with the proper methods. One of the most interesting and important anaërobic bacilli, gifted with high pathogenic powers, is the gas bacillus of Welch. Since the attention was directed to the bacillus of Welch, the number of morbid conditions found to be caused by it have multiplied rapidly. This shows what may be the case in other forms of anaërobic infections. Courmont and Cade[1] recently describe with great fulness of detail an exceedingly interesting example of an acute, fatal infection with an anaërobic bacillus that seems to be a new pathogenic organism. Clinically there was much that reminded one of the bubonic pest: violent general symptoms, ill-defined signs of pulmonary involvement with blood-tinged expectoration, subclavicular phlegmonous swellings. Pest was easily excluded, however, by finding in the pus an anaërobic bacillus, non-pathogenic for mice. Post-mortem there were found multiple abscesses of the lungs, a subclavicular suppuration, and the changes peculiar to septicemia of infection in the viscera. The pus contained great numbers of small bacilli, often arranged in chains, but also in various other groupings. Cultures from the lungs and the abscess, made anaërobically, gave pure growths of a bacillus, mostly in chains, which destained by Gram's method but stained readily with the usual other stains, often showing an unstained spot in the center. The bacillus is a strict anaërobe, and the anaërobic cultures from the other organs remained sterile. It grows best in peptonized bouillon, forming flocculi at the bottom, the supernatant fluid remaining clear. On solid media but slight growth is produced, non-gasogenic. It is pathogenic and pyogenic for rabbits, guinea-pigs, and dogs. After intravenous injections of rabbits large abscesses of the liver frequently result. In proposing for this bacillus the name "strepto-bacillus pyogenes floccosus" the authors violate one of the canons of botanic nomenclature, in so far as a trinominal name is suggested. We have here a good illustration of the value of systematic and complete bacteriologic examination in cases that simulate such dreaded diseases as bubonic plague.

THE QUESTION OF CRUELTY IN THERAPEUTIC OBSERVATIONS.

It is thought by some persons that members of the medical profession become hardened to suffering and death by reason of their more or less constant association with both of these conditions; but investigation will disclose that there is no body of men more thoughtful and considerate for the comfort and welfare of those that come under their care. Occasionally in the pursuit of his duties, the medical man may be compelled to resort to measures that to the layman may seem unnecessarily harsh and severe. The cold bath, for instance, has been considered such a measure. Again, many patients do not consider milk a food, and complain bitterly of being starved if given no other nourishment. *It is, therefore, incumbent on the physician to be* especially careful in experimental observations, as well as guarded in his manner of description, in order that both his motives and his methods be not exposed to hostile and unjust criticism. Several years ago a great hue and cry was aroused because of the administration of thyroid extract to a number of cases of dementia in the course of a perfectly legitimate and well-intended therapeutic experiment. As a further illustration of the distorted and exaggerated interpretation that is every now and then placed on medical reports, an account of a recent experience is an interesting example. There was published in the *Archiv für Klinische Medicin,*[1] by an assistant of the medical clinic at Jena, a description of the methods pursued in a case of diabetes insipidus, in which the amount of water permitted for drinking-purposes was greatly restricted, so that the patient, as a result, suffered greatly from thirst, and secretly obtained water and other fluids. The report goes on to say that he was accordingly locked in a room, and, to relieve his thirst, drank dirty water, as well as his own urine. With the appearance of untoward symptoms the treatment was discontinued. As might be expected, this report gave rise to considerable acrid criticism, not alone of this particular case, but of the medical profession generally. In defense of the course pursued, it is pointed out by the chief of the clinic where the observations were made that the treatment was instituted purely for curative purposes, that the patient had been informed of the inconveniences to which he might be subjected, that he nevertheless consented to be treated in this way, that he was at liberty to leave the hospital whenever he chose, but that he remained for two months and afterward returned of his own accord, and that, although the events described occurred three years previously, the patient had been up to the time of his death, two years later, always grateful to the physicians of the clinic for the consideration shown him.

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[1] Virchow's Archiv, 1900, clx, 199-252.

[1] Arch. d. Méd. Exp. d. Anat. Path., 1900, xii, 393-418.

Medical News.

PROF. K. GEGENBAUER, professor of anatomy at Heidelberg, has resigned his chair on account of ill-health.

SIR MICHAEL FOSTER, professor of chemistry at the University of Cambridge, England, is in San Francisco and will give a series of lectures on the science of physiology, at Cooper Medical College.

PROF. A. VON ROTHMUND retired from the chair of ophthalmology at Munich on his seventieth birthday, August 1, after an incumbency of forty years, at which time his friends, pupils, and representatives of the municipality and local societies, etc., assembled to do honor to his farewell address.

THE CITY OF MOSCOW founded a prize in 1897 in honor of the International Medical Congress, to be awarded triennially to the author "whose works have contributed most to the progress of medical science." The Thirteenth Congress bestowed this prize of $1000 on the Spanish scientist, Professor Ramon y Cajal, of Madrid.

LUNG DISEASES are increasing in the Royal navy, says Captain Rason. Since 1883 respiratory diseases in that service have increased 60 per cent. despite the abolition of masts and sails and the lessened exposure to cold and wet. Captain Rason suggests as possible causes for this increase, that the men live in hot, unlined steel ships and crowded together.

TUBERCULOSIS has been decided by the Secretary of the Treasury and the Commissioner of Immigration, to be a contagious disease, and aliens ill with the disease will not be allowed to land in the United States. The first sufferer under this decision was a Japanese clergyman, who was not allowed to land at San Francisco. He appealed and the decision cited above is the result.

HOSPITALS are to be established for United States soldiers at Nagasaki, Japan, with a capacity of 500 beds, and at some point in China with double that capacity. The material for fitting up these hospitals is being collected and forwarded as rapidly as possible. Majors E. T. Comegys, and P. F. Harvey of the army medical department started on August 20 and will assume charge as medical-supply officer, and surgeon-in-charge of the base hospital at that point.

ROMA SALUBRIS, should be the name of the Italian capital, according to the statement of Dr. Irving C. Rosse, of Washington, D. C. He discredits the mosquito-borne theory of malaria and gives the city a very good name for salubrity. He says that malaria is now seldom observed excepting among the lower classes, notwithstanding the fact that the mosquito is not a respecter of persons. He further says that Rome—with the exception of London—is the best watered, the best drained, and the healthiest capital in Europe, and a European or native of New England runs greater risk of contracting malarial fever in Washington.

RUSSIA'S STUPENDOUS ANTI-ALCOHOL CAMPAIGN.—It is now five years since the Russian government assumed exclusive control of the manufacture and sale of alcoholic liquors. In nearly all the provinces the saloon has been supplanted by the government shops, in which a guaranteed pure article is sold in a limited quantity to each customer. None is sold to those already intoxicated. These shops are located quite a distance apart and no one is allowed to drink liquor on the premises where sold. The system is supplemented by officially appointed local committees in each large town, which are supplied with funds to establish attractive temperance restaurants, reading-rooms, and people's palaces. They are expected to maintain a general crusade against the use of alcohol. A portion of the enormous profits of the liquor monopoly is devoted to this purpose.

CALIFORNIA.

DR. HENRY B. BESSAC, Forbestown, has returned from Cape Nome, decreased in weight, but improved in health.

SAN FRANCISCO PLAGUE REPORTS.

CASE No. 14.—William Murphy, aged 34 years, male, Caucasian. Occupation, clerk. Born in California. Residence, 427 Dupont street, between Bush and Pine, this within a few blocks of the Chinese quarter. The patient rode out to the hospital in a car and was admitted to Ward C. The following history of the case was taken from the records of the City and County Hospital. He has smoked opium and used morphin hypodermically for the last nine years. Chills and fever seven or eight years ago and was also treated in this hospital for pain in the side and discharged cured in three or four days. No venereal history, constipated for the last nine years. On Tuesday afternoon August 7, he noticed a pain and slight swelling in the right groin. That evening he began to feel sick and sore all over, had some headache and vomited a small amount of a bitter greenish substance. Heart slightly enlarged to the right. Lungs dull in axilla and diminished resonance over both apices, anterior and pos S and sonorous râles over both lungs. Abdome sation normal. Urine, specific gravity, per cent., no sugar. Microscopic exam crystals and some pus cells. The tempe the range of temperature to have been from normal to 100. Pulse 100. A painful bubo was present in the right femoral region. The patient died August 11 at 8:20 a. m. Duration of illness five days. Autopsy performed August 11 by Prof. Taylor of the medical department of the University of California. "Body of a well nourished man apparently 30 years old. The face, neck and extremities are livid. The entire surfaces of the arms are covered with small scars. Rigor mortis moderate in degree. On section the tissues are bloody; panniculus adiposus exceptionally thick. Peritoneum covering intestines is injected; intestines present several dark patches suggestive of hemorrhages. No serous effusions. Thoracic muscles deep red in color. Diaphragm on right side extends to fifth rib, on left side to fourth. Both pleural cavities, numerous adhesions. No exudate. Pericardium contains an excess of clear fluid. Heart and great vessels filled with heavy postmortem clots. Weight of heart, 410 grams. Walls one-half thicker than normal. Muscle, deep red. Aortic valve soft, elastic and competent. Aorta, few patches of atheroma. Aortic orifice, enlarged, admitting three fingers. Mitral valve, slightly sclerotic. Right lung, crepitant throughout; exudes frothy serum on section and pressure. The bronchi contain pus. Up to the third ramification of the bronchial tubes they contain no hemorrhages and no free blood. Bronchial glands not enlarged. Left lung, deeply congested in lower lobe and presents a gelatinous feel and appearance suggestive of disseminated tuberculosis; otherwise like the right. Mesentery, has a mottled appearance; glands not enlarged. Common bile duct pervious. Stomach, a tremendous injection and submucous hemorrhage; not dilated, mucous membrane smooth, no ulcers. Spleen, weight 615 grams, deeply congested, very friable. Duodenum is slightly injected, no free blood in stomach. Extensive hemorrhages into the tissues about the pancreas and behind the lesser peritoneum. Extensive hemorrhages into the substance of the pancreas. No fatty necrosis. Liver is bound down by posterior adhesions; weight 2330 grams. Extends below the umbilicus. Increased in anteroposterior diameter. On section, pale, somewhat resistant to knife, and of fibrous appearance. Gall-bladder is not enlarged; contains one ounce of dark-colored bile and two gall-stones. No obstruction in common duct. Intestines show mucous membrane congested; numerous submucous hemorrhages; no ulcers. In right groin are two enlarged lymph-glands, hemorrhagic but not purulent. An enlargement of the glands in the right femoral region." Dr. Taylor left intact the bubo in the right femoral region for the bacteriologic examination. The next day, Dr. Kellogg, in the company of Drs. Kinyoun, Ryfkogel, and Pillsbury, removed the glands from the bubo and found them necrotic, full of hemorrhages, and larger than in any previous case. Microscopic examination of the glandular tissue and spleen showed the plague bacilli, typical in form, and in much larger numbers than usual. Guinea-pigs were inoculated and died of typical plague infection. Other guinea-pigs have been inoculated with pure cultures obtained from the glands and spleen. Case No. 15.—Ham Tam, Chinese, male, residence 900 Dupont street, died August 15. He had been treated by a white physician who has a large practice among the Chinese and who reported that the death was due to phlegmonous erysipelas and septic pneumonia. Dr. Kellogg saw the case August 16, and found an enlargement of the submaxillary glands on the left side, which were removed and found to contain the plague bacillus in large numbers. Guinea-pigs were inoculated with emulsion made from the gland and died with typical lesions of plague. Pure cultures have also been obtained from the gland. An autopsy of the Chinaman showed nothing aside from what could be expected in cases of plague. The heart was soft and flabby and valves normal. Decomposition was well advanced and all the cavities were distended with gas. The lungs were much congested but no consolidation. Vessels of the mesentery injected. Spleen enlarged, very dark and soft. No enlargement of the lymph nodes.

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[1] THE JOURNAL, July 28, p. 247.

CONNECTICUT.

Dr. Joel Butler, Meriden, has been appointed junior house-surgeon of the New Haven Hospital.

The July examination, held by the examining board of the State Medical Society, was taken by twenty-five, sixteen of whom, including one woman, passed. The examining committee consisted of Dr. H. S. Fuller, Hartford; Dr. Max Maithouse, New Haven; Dr. J. F. Calef, Middletown; Dr. J. W. Wright, Bridgeport, and Dr. W. L. Barber, Waterbury.

The mortality of Connecticut for July, as shown by the report of Dr. C. A. Lindsley, Secretary of the State Board of Health and superintendent of vital statistics, was greater by 214 than the corresponding month of 1899. During the month 1583 deaths were reported. This mortality was exceeded in March and April, in which respectively 1691 and 1678 deaths occurred. The highest mortality was, of course, from diarrheal diseases and among infants. The death-rate per 1000 for the state was 20.8; for the large towns, 21.7, and for the small towns, 18.7.

GEORGIA.

Drs. William S. Goldsmith and Walter B. Emery, Atlanta, have gone to New York for post-graduate work.

More than 3000 insane are now inmates of the state asylum at Milledgeville, which is greatly overcrowded, and more than 200 are now being held in county jails waiting for vacancies in the state institution. New buildings and increased space are urgently needed.

ILLINOIS.

Dr. Ralph Graham has located in Seaton for the practice of medicine.

Chicago.

A lawn party was given August 22, with a musical and literary program, for the benefit of the Norwegian (Tabitha) Hospital.

An emergency hospital is to be established in the stockyards district. At present those injured in the stockyards must be transported several miles to the County Hospital for treatment.

Dr. Charles H. Beard has returned from Paris, where he served for two months as a member of the international jury of awards in the department of medicine and surgery at the exposition. He accords high praise to the exposition, and says that every courtesy was shown to the American members of the jury.

The committee on lodging-houses of the State Board of Health, and its Chicago inspector, will ask the board to draft a law for the government of lodging-houses more in accordance with the law now in operation in New York. More rigid sanitary regulations will be included in this law, which, if enacted and enforced, should take away Chicago's reproach in this regard.

La Rabida Sanatorium, in Jackson Park, has been a godsend to the sick babies of the South and Southwest sides of the city during the heated season. Dr. Emma M. Mora is the physician-in-charge and the medical board is composed of Dr. M. P. Hatfield, president; Dr. W. C. Williams, vice-president; Dr. Henry F. Lewis, secretary, and Drs. Rosa Engelmann and J. C. Cook, consultants.

HEALTH DEPARTMENT.

From time to time during the last ten years, and more frequently since 1895, the department has claimed that Chicago had a lower death-rate than any other large city in the world—including among "large cities" all those having populations of more than 500,000. With the uncertainty as to our population it was not possible to demonstrate the correctness of this claim and elsewhere it was set down as a wild western bluff. One high statistical authority commenting on the figures for 1893, asserted that a death-rate of less than 18 per 1000 for a city of a million was incredible and added that, "If Chicago's figures are correct, municipal hygiene is a municipal farce; if they are correct there can be no use for a health department." More recently, one of Chicago's self-constituted censors who finds no good in his own city, publicly stated, with much apparent satisfaction, that the Berlin authorities —from which city he had just returned—paid no attention to Chicago's statistics—"they threw them in the waste basket."

Announcement last week of the Federal census figures of population not only sustains the claim of lowest death-rate for Chicago but also shows that the department estimate of population was nearer that of the Federal census than were those of any other of the large cities yet announced. Greater New York had an estimated population of 3,654,594; the census figures were 3,437,202, a difference of 6.32 per cent.; St. Louis an estimated population of 623,000, reduced census figures to 575,238 a reduction of 8.30 per cent.; Philadelphia claimed 1,266,832, but the census-takers found only 1,203,697, a reduction of 5.24 per cent; while the estimate of the Chicago department of health—1,750,000—was only 51,425, or 3.03 per cent. above the census findings. The claims of Chicago are confirmed by the statistics of deaths tabulated in the current number of the "Sanitary." From this table it appears that Chicago leads the cities of the world as regards death-rate for the first quarter of the year, 16.56 per mille. Next in order comes Brussels, 16.8; St. Louis, 19.2; Hamburg, 19.4 Berlin, 20; Amsterdam, 20.8: Vienna, 22.1; London, 23.1; Naples, 23.2; Greater New York, 23.27; Philadelphia, 23.65; Paris, 23.8; Birmingham, 25.9; Manchester, 26.5; Glasgow, 27.4; St. Petersburg, 29.5; Liverpool, 31.4; Budapest, 32.6; Cairo, 32.8, and Moscow, 36.9. In the half decade 1890-1894, there were 126,804 deaths in Chicago, a yearly average of 23,361; in the half decade, 1895-1899, 117,331 deaths occurred, a yearly average of 23,516. This marked a decrease of 7.27 per cent. in mortality as compared with the first period, while the population in the same period had increased according to census figures 37.33 per cent. This is a most interesting and instructive demonstration of the improving public health of Chicago. From this time on the department will base its figures on the population as found by the census authorities, 1,698,575. The mortality for the week ended August 25, was at the rate of 14.42 per thousand, which compares favorably with 15.40, the figures of the corresponding week of 1899. The total deaths were 466; 262 males and 204 females; 140 under 1 year, 65 between 1 and 5 years and 65 over 60 years of age. The principal causes of death were: acute intestinal diseases, 109; consumption, 42; heart diseases, 39; violence, 33; nervous diseases, 26; cancer, 25; Bright's disease, 18; pneumonia, 17; convulsions, 11; typhoid fever, 11; diphtheria, 10; sunstroke, 7; and suicide, 3.

INDIANA.

Dr. A. J. Boswell has moved from Fort Wayne to Elkhart.

Dr. A. B. Darby, Waterloo, has been nominated for state senator on the republican ticket.

Dr. Fred C. Sarver, Scottsburg, will soon leave for China as acting assistant-surgeon in the army.

In a fight over the way in which Dr. N. G. Masters of Stilesville handled an alleged mind-reader, he seriously wounded the manager of the show.

Dr. Charles R. Shouse, house physician of the Wabash Hospital, Peru, has been transferred to the Wabash Hospital at Ashley, succeeding Dr. P. S. Kaadt.

Muncie is promised a $100,000 hospital by the woman's lodges and various societies of the city. They agree not only to build and equip the hospital, but to assume its management, and all this without "begging one cent."

The State Medical Board report, just issued, shows that the medical profession of the state has approved the medical laws recently enacted and that their enforcement has rid the state of many undesirable practitioners. The board considers that all the medical colleges of the state are operating within the requirements of the law. It is suggested that the laws of the state be so amended as to require graduates from colleges in other states to pass an examination by the state board before being granted license to practice. It is also suggested that the law be so amended as to require each county clerk to file in his office all cetificates of qualification presented by applicants for license to practice.

KANSAS.

A partnership has been formed by Drs. W. Scott Harvey and James R. Crawford, Salina.

Morton County, when asked by the State Board of Health to send in a list of its physicians and surgeons, reported that it had none. On investigation the state board is said to have learned that there had not been a case of serious illness in the county for two years. This locality is earnestly commended to the attention of the pathogenic microbe.

KENTUCKY.

Speers Hospital, Dayton, will probably not be closed. On August 17 the medical staff met at Newport, discussed the troubles of the institution, decided on the abatement of certain abuses and determined to use its utmost efforts to continue the work of the hospital.

LOUISIANA.

Dr. Otto Joachim, of New Orleans, is spending his vacation in Quebec, Canada.

New Orleans is boasting of her health record. Her death-rate for the week ended August 11 was only 13.11 per 1000 per annum for whites; and for the following week, 13.87 per 1000 per annum. The death-rate for the colored population is not given. Out of 56 deaths for the week, 4 were from accident, 1 of which was from sunstroke.

MARYLAND.

Dr. John D. Brooks, Brookland, left for San Francisco August 17 to receive orders as acting assistant-surgeon in the army. He expects to go to the Philippines.

Baltimore.

Dr. William T. Howard is at Narragansett Pier.

Professor John C. Hemmeter, of this city, read a paper before the International Medical Congress in Paris August 3. During his stay in the Parisian capital Dr. Hemmeter is the guest of Professor Mathieu.

In a card in the papers, Dr. Brush, of Sheppard and Enoch Pratt Asylum, states that there are no cells, "either padded or otherwise," at his institution. Padded rooms are quite common in many English hospitals for the insane.

Dr. Calvin De Ford Snyder, who for eighteen months past has been resident gynecologist at the Maryland University Hospital, and Dr. Howard D. Lewis, who has been connected with the hospital dispensary for some time, have been appointed assistant-surgeons in the U. S. Army, with the rank of first lieutenants, and have left Baltimore for San Francisco.

The Board of Awards has let the contract for supplying horses to the health department for the next year for $500. This includes the use and keep of two horses and wagons. The horses are needed for the pauper dead service and for carrying sick persons to hospitals. Should extra horses be needed they are to be furnished at the rate of $250 each per annum.

By the will of Mrs. Margaret J. Bennett, of this city, widow of a wealthy auctioneer, the following bequests are left to charity: Hospital for the Women of Maryland, $25,000; Nursery and Child's Hospital, $2,000; Asylum and Training School for Feeble-Minded of Maryland at Owing's Mills, Baltimore County, $1,000; Home for Incurables, $1,000; for establishing a home for homeless, needy and deserving female persons, $150,000. Altogether $316,000 of her million were left to charity.

MASSACHUSETTS.

Dysentery is reported to be epidemic in Millbury, and the local health authorities are looking into its causation.

State medical inspectors are recommended by Dr. Henry P. Walcott, chairman of the State Board of Health, whose duties shall be to make frequent inspections of nuisances with immediate reports to the local and state boards. He proposes that the present district examiners be appointed, as they are "the most reputable men the state employs" and who "know something about law and could go into the courts if necessary."

Anti-vaccinationists of Rockland have passed resolutions asking the local board of health to refrain from further enforcement of the state law that requires all children to be vaccinated before entering the public schools. Dr. Gilman Osgood, of the board, in a communication to the local press, defends vaccination in strong terms and stated that parents who failed to have their children vaccinated were guilty of wilfully neglecting their welfare.

MICHIGAN.

Dr. Willett J. Herrington, of Bad Axe, has returned recently from his European trip.

Drs. W. E. Jewett, Sr., and W. E. Jewett, Jr., have been appointed surgeons of the S. & M. S. Ry. at Adrian, vice Dr. C. Kirkpatrick, resigned.

Dr. Harry S. Kiskadden, Detroit, has been appointed by the governor a member of the State Board of Health to succeed Dr. B. H. Lawson, resigned.

MINNESOTA.

Dr. John Snell Holbrook, Mankato, and Miss Mary Emaline Whiting, Northfield, were married August 16.

Dr. G. R. Clayton, Winona, has been appointed acting assistant-surgeon in the army and is in San Francisco awaiting orders.

The incorporation is announced of the Swedish Hospital and Nurses' Institute, at Minneapolis, with a capital stock of $30,000. The incorporators are Dr. C. A. Smith, A. B. Darelius, E. G. Dahl, and N. O. Warner.

The citizens of Minneapolis have been asked to contribute $30,000 for the building of a quarantine hospital. The city treasurer is to act as treasurer of the fund. This appeal has been made because the city treasury is empty and no money will be available from municipal sources until next year.

MISSOURI.

Dr. A. M. Conway, of Fayette, has removed to Glasgow.

Three murders were committed on August 20 by Dr. Sturley P. Harrington, Farley, Platte County, while crazed from drink. He first drove his wife from the house, killed his uncle, mother-in-law and the sheriff of the county, and was in turn shot dead by the sheriff's son.

NEW JERSEY.

Dr. Edwin Field, Red Bank, sued the Board of Chosen Freeholders of Monmouth County for $90, for performing three autopsies. The board, which had an arbitrary rule, refused to pay him more than $15 per autopsy. The court, however, held that he was entitled to the amount claimed.

NEW YORK.

Dr. Smith Ely Jelliffe assumes charge of the *Medical News* September 1.

NORTH DAKOTA.

Dr. George F. Erskine, Hamilton, has been appointed vice-president of the State Board of Health to succeed Dr. Musgrove, deceased.

Diphtheria at Valley City and smallpox among the Indians on the Turtle Mountain reservation are engaging the time and attention of the state health officer, Dr. Quarry, Grand Forks.

OHIO.

Dr. A. O. Ervin, South Salon, has located at Washington Court House.

Dr. Scuyler O. Giffin, Columbus, has been elected secretary of the Franklin Park commissioners.

Dr. August Ravogli, for sixteen years Italian consul in Cincinnati, has been obliged by the demands of his practice to resign his diplomatic position.

Dr. Robert E. Ruedy, of the house staff of the State Hospital, Columbus, has resigned and will open an office in Cleveland. He will be succeeded by Dr. George T. Harding, of Marion.

Ohio Medical College, Cincinnati, will open a physiological laboratory with the opening of the autumn session, which will be fully equipped and will be under the charge of Dr. William Muhlberg, an alumnus of the institution.

The Board of Health, Portsmouth, has arrested three prominent physicians. They are charged with failing to report cases of contagious disease to the Board of Health within twelve hours, as required by the state law.

The care of the city poor of Columbus was awarded August 15, supposedly to the lowest bidder. The bids varied from $84 to $294 per ward for the year. The aggregate amount of all bids for the entire city for the year was $3,379. Whether the sick poor or the doctor would be likely to derive any benefit from the service thus rendered is a matter of grave doubt.

The first examination under the Love medical law will be held in Columbus by the State Board of Medical Examination and Registration, September 11, 12 and 13. Applications must be filed with the secretary of the board at least ten days before the date of examination. The requirements are that the applicant must have had a four years' course in some recognized college of medicine and in addition, pass the required examination.

PENNSYLVANIA.

Dr. Erwin F. Benner has decided to locate in Richlandtown.

Dr. H. C. Brunner, Treverton, was seriously injured by being thrown from his carriage on a mountain road, August 13.

Dr. Frank L. Moyer, Williamsport, has removed to Loganton, where he will be associated with Dr. Goodman.

Two resident physicians, Drs. Samuel Blose, McKeesport, and Howard P. Repman, Wampum, have entered on their duties at the McKeesport hospital.

Dr. Lucas C. Kennedy, a graduate of the University of Pennsylvania, for two years interne at the Moses Taylor Hospital, has returned from a study trip in Europe, and has opened an office in Scranton.

Several days ago a man living near Ephrata went in bathing in an adjoining creek and at night suffered severely from earache. Toward morning the pain grew worse. Medical attendance was called and two leeches were removed from the ear, giving relief of the symptoms.

The Association of Hospital Superintendents met in the Hotel Schenley at Pittsburg on August 21, there being 50 members present from New York, Philadelphia, Cleveland, Chicago, Buffalo, Detroit and other places. A paper on "Three Years' Growth and Development of Hospitals" was read by Dr. D. T. Sutton of Detroit.

Some physicians of Washington and Green counties are said to have been swindled by the old "signature" confidence game. A smooth stranger requested their signatures to a petition for the repeal of a law obnoxious to the profession. They signed the petition. Soon thereafter checks or notes were presented at banks, signed by these confiding physicians, who have been mulcted in sums varying from $20 to $50 by this means.

During the past week an unusual number of mad dogs have been reported in different parts of Pennsylvania and the disease seems to be increasing. On August 24 a white fox terrier afflicted with rabies entered Norristown, and before it was killed bit over a dozen children and probably as many dogs. The dog was subsequently killed. On the same date a shepherd dog in the Monongahela Valley near Pittsburg was found to have bitten 18 people.

Dr. McCuaig, of the new insane asylum at Wilkesbarre, went to Danville on August 24 and removed 83 insane patients to the asylum at Wilkesbarre. This list about completes the number who had been placed there some time ago owing to the overcrowding. Altogether 180 patients have been removed from Danville, 26 from Wernersville, and 21 from the Hillside Asylum near Scranton.

Philadelphia.

Dr. Charles P. Noble is expected to return from his European trip September 3.

Dr. Ellwood R. Kirby has been appointed a member of the Board of Charities and Corrections.

W. B. Saunders & Company, medical book publishers, are striking out for new fields, having established a branch in London.

Dr. Elizabeth Reifsnyder, a graduate of the Woman's Medical College of this city, and who for several years past has been practicing medicine in Shanghai, China, is now visiting in this city. Dr. Reifsnyder is assisted in the hospital work by Dr. Emily Gardner, also a graduate of the Woman's Medical College.

Dr. Samuel J. J. Kelly has sailed for Europe, where he will do post-graduate work.

Dr. Simon Flexner is spending the summer at Ty'n-y-Coed, Campobello Island, New Brunswick.

By a trolley accident, Dr. Thomas A. Downs had his foot badly crushed August 14, so that it was necessary to remove him to the Presbyterian Hospital.

Through the bequest of Michael Corr the sum of $5000 has been given to each of the following named hospitals for the endowment of a free bed: the St. Joseph's Hospital, St. Agnes Hospital and St. Mary's Hospital.

The twenty-sixth annual reeport of the Jewish Maternity Association states that during the year 129 persons have been cared for in the hospital and 33 operations performed. At present there are 650 contributors. During the past year the total amount of money contributed was $4853.23.

By the will of Sallie M. Waln, the sum of $3000 has been given the St. Christopher's Hospital for Children for the endowment of a free bed; to the Pennsylvania Training School for Feeble-Minded Children at Elwyn, $5000; and to the Children's Hospital $3000.

The number of deaths which occurred in this city for the week ending August 25 was 372, as compared with 550 deaths for the week preceding and 406 for the corresponding period of last year. The principal causes of death were: Nephritis, 33; cholera infantum, 26; tuberculosis, 37; apoplexy, 9; diabetes, 2; heart disease, 20; inanition, 23; pneumonia, 15; appendicitis, 2; surgical shock, 3; cancer, 7; sunstroke, 5; suicide, 4; tetanus, 2.

Owing to the spread of cases of conjunctivitis an investigation has been ordered by the board of health. The latest theory in regard to the prevalence of the disease is that it is due to the public bath-houses. It is stated that at the St. Christopher's Hospital for Children during the past three or four weeks upward of 200 cases have beeen treated, while the Pennsylvania Hospital has treated nearly as many. At the Jefferson Hospital and Polyclinic an increase has been noted. Some of the patients admitted that they had been patrons of the bath-houses. Dr. J. H. Taylor is quoted as saying that the rules at the bath-houses were very strict, and further after an investigation he could find no cause for infection in these places. Chief Good also did not believe the prevalence of the disease could be traced to this cause since each pool was scrubbed out twice a week, while running water is allowed to flow through these places constantly. Officers of the board of health still attribute the disease to colds resulting from trolley rides.

RHODE ISLAND.

Dr. John G. O'Meara, Providence, who has been resident physician at St. Mary's Hospital, Philadelphia, for a year, has sailed for Europe, where he expects to do post-graduate work, particularly in the line of physical diagnosis.

SOUTH DAKOTA.

Dr. Willis E. White, late of Tiffin, O., has located in Centerville.

TENNESSEE.

Dr. Eaton K. McNeil, Jackson, has sailed for Europe to do post-graduate work in Paris, Vienna and Berlin.

Dr. Alfred S. Horsley, Knoxville, will soon leave for Ecuador, South America, where he will be surgeon for a firm of railroad contractors.

St. Thomas Hospital, Nashville, is to receive an addition costing $100,000. The cornerstone of this annex was laid on the afternoon of August 15 with appropriate ceremonies.

Dr. G. M. Magruder, U. S. M. H. service, who has been for the past nine months in London, where he was detailed as special government officer to watch for the appearance of the bubonic plague in England, has returned to Memphis and resumed charge of the United States Marine Hospital in that city.

Dr. J. L. Andrews, chief sanitary officer of the city of Memphis, has resigned his position, with a view to pushing his interests as a candidate for the office of physician-in-charge of the County Poor and Insane Asylum.

Dr. J. A. Griffin, of Friendship, was recently nominated for representative in the General Assembly from Crockett County.

TEXAS.

The Medical Board of the Thirty-third Judicial District met at Mason, August 14, for permanent organization and examination of applicants.

VIRGINIA.

The Norfolk sanitary inspectors' report shows that there were in that city 593 cases of contagious disease with 80 deaths. The pest-house was kept open and 268 persons were there cared for at an expense of $3026.30. During the year 218 houses, containing 693 persons were quarantined.

WISCONSIN.

Dr. Egbert E. Loomis, Janesville, has returned from an extended tour in the East.

Dr. Arick Sutherland has located at Brodhead and will practice in partnership with his son.

Passavant Hospital, Milwaukee, now has six wards with 90 beds, beside 26 rooms for private patients. During the last year 663 in-patients, including 85 children, were cared for.

CANADA.

British Columbia.

LODGE PRACTICE.

The correspondence in the lay press of Victoria in regard to lodge practice in that western city is interesting. When the lodges of Victoria found that they could not engage any of the physicians of that city to do this work for them, they advertised for practitioners to come to Victoria, promising at the same time that they would receive all the lodge as well as all the family practice of the adherents of the fraternal societies. It is most gratifying to learn that there was not one response to this appeal from any single practitioner either in British Columbia or the entire Dominion of Canada. About the first of last December an agreement was drawn up and signed by every physician in Victoria agreeing to stop all lodge work, and the resignations of all doing this work were sent in. No sooner were these resignations handed in than it is asserted on the part of one of the most respected and influential practitioners in Victoria, that two of their number began to do the combined lodge work in the city, which is said to affect about two thousand persons. The members who remained true to their agreement then refused to consult with the two practitioners cited. One was expelled from the Victoria Medical Society; but otherwise, they are accorded their hospital privileges as formerly. The controversy between the physicians and the lodges is exciting a great amount of attention in Victoria, and every meeting of the fraternals is crowded with members. Altogether there are twenty-one lodges in the city; and the societies were paying the doctors about $4000 a year for looking after the health of something like 2000 members. The struggle is said to have beeen precipitated by the fact that all the lodge work was being done by a few practitioners. From present conditions it appears that the doctors are getting the best of the fight, as the lodges cannot import any outsiders, because none have applied, and because the medical act of the province requires that any one going to practice in British Columbia must take the examinations of the Medical Council of that province.

Ontario.

CIRCULAR RE TUBERCULOSIS.

The provincial board of health of Ontario has just issued a circular to physicians and local boards of health on the prevention of tuberculosis at the instance of the committee on epidemics of the provincial board. It states that all inmates of provincial institutions who are affected with this disease should be isolated in wards set apart for such patients, and not be permitted to associate generally with other inmates; that all rooms and wards occupied by consumptives when they become vacant, shall be immediately disinfected. That all individuals affected with tuberculosis and living in private families should be isolated as much as possible from the other members, and that especial care be taken to destroy their expectoration. The circular further urges that local boards of health establish rules for the notification of cases of tuberculosis to the local medical health officer. The medical health officer of any municipality should have a knowledge of the number of cases of tuberculosis therein. On notification of a case the local medical health officer will supply the physician with printed rules for the benefit of the other members of the household for their protection, and thus a campaign of education will be instituted in the province, which if followed up diligently by the local boards of health, will result in much advantage in the way of prevention. The circular also contains a copy of the act passed at the last session of the local legislature, respecting the establishment of municipal sanatoria for consumptives.

LONDON LETTER.

The British Medical Association.

(Continued from p. 511.)

SANATORIA FOR CONSUMPTIVES.

Dr. Nathan Raw, medical superintendent, Mill Road Infirmary, Liverpool, before the Section of State Medicine, said that the whole civilized world is now aroused to the fact that tuberculosis may be stamped out by proper precautions and treatment. Whatever is done, however, must be on a sensible and comprehensive scale, as a disease which kills 60,000 people a year in Great Britain alone can not be lightly considered. As we now know tuberculosis to be a parasitic disease, we have the power to eradicate it. As a communicable diseasee, it is transmitted chiefly through the sputum of consumptive persons, by tuberculous meat and by milk from tuberculous cows. The two latter causes are being rigorously dealt with by health officers and should soon be removed. The first cause, however, is the most difficult of all to deal with. Patients attacked by tuberculosis are looked on as hopelessly ill and are nursed and pampered, carefully cared for in rooms with poor ventilation, and consequently provided with the best conditions for the growth and multiplication of the tubercle bacilli. When these delusions regarding consumption are dispelled, the more fortunate classes will certainly co-operate with the health authorities in any measure they may adopt for eradicating tuberculosis, but the working masses of the population will have to be not only educated but forced to take the necessary measures, and this will have to be done at the expense of the public. The Local Government Board of Liverpool, upon Dr. Raw's suggestion, have provided a most excellent site for a sanatorium 650 feet above the sea level on the banks of the river Dee, easily accessible from Liverpool. This sanatorium will be reserved for the early cases of tuberculosis and no patient will be admitted without a careful medical examination and certificate. The advanced cases have been carefully removed from the general wards of the infirmaries and segregated in consumptive wards, and careful precautions instituted against infection. The working non-pauper class of the community should be provided for by the municipalities, which should erect a sanatorium in a suitable district for these patients. Private enterprise, charity and philanthropy will continue to provide treatment for a few, but tuberculosis must be dealt with in a general way by the corporations which have the custody of the public health in their keeping. The health authorities must do everything possible to prevent the disease among the working classes, but they should also have the means of cure, and the only cure known at present is fresh air and sunlight in a proper sanatorium. In a few years it will be difficult, if not impossible, for a consumptive person to find employment, as public opinion will then have been so awakened to the possibilities of danger from infection that those employed in factories, workshops and offices will object to the presence of consumptives in the same room. When this happens, some provision must be made for their cure, and the proper authorities to deal with this problem are the county councils and municipalities, as the question is too large and general to be left to chance philanthropy and charitable institutions.

STERILIZED HUMANIZED MILK FOR INFANTS.

Dr. F. Drew Harris, medical officer of health, St. Helens, read a paper before the same section on "The Supply of Sterilized Humanized Milk for the Use of Infants in St. Helens." He first considered the prevention of diarrhea, which, in his opinion, occupied a very prominent position among the diseases of early infant life. Diarrheal diseases are especially prevalent among bottle-fed children. During the past five years in St. Helens 81 per cent. of the children under six months who have died were bottle-fed. The author, impressed with these facts, secured a small house and initiated there the municipal sterilization and distribution of milk. The depot was opened on August 8, 1899, and in a short time over eighty children were on the books. At present more than 140 are being fed. The mothers are each given a basket containing nine bottles with the requisite amount of milk according to the age of the child, and are requested to bring the babies once a week to be inspected and weighed. The results are difficult to state with accuracy, owing to the short time the method has been in use, but it may be said that the death-rate among those who have used the sterilized milk was 103 per 1000, as compared with 157 per 1000, taking the borough as a whole. Judged on an average of the past eight years, over sixty infant lives have been saved by this means in St. Helens alone.

DOES SEWAGE TREATMENT DESTROY PATHOGENIC GERMS?

Dr. A. C. Houston opened the discussion on this subject and confined his remarks wholly to bacterial filters. In nearly all cases the size of the particles in bacterial beds is such as to preclude the possibility of the mere mechanical separation of the germs. When sufficiently fine material for this object is used, the filters usually, and almost invariably become choked and useless. In general terms it may be stated that the mechanical separation of the micro-organisms in sewage by the use of bacterial beds is virtually impossible. From the epidemiological standpoint, sewage which has been treated in sewage works is almost if not quite as dangerous as when it left its original objectionable source. He thinks that the possibilities of isolating the typhoid bacillus from ordinary sewage are so remote as to be almost infinitesimal. Nevertheless two microbes indistinguishable from the bacillus typhosus were isolated from the fresh sewage of the Homerton Fever Hospital. In February 1898, when the author commenced his bacteriologic investigations of crude sewage and sewage effluents, for the London County Council, he was impressed with the importance of selecting one or more micro-organisms in the crude sewage and then tracing the fate of these microbes during the biological treatment of the sewage at Barking and Crossness. Bacillus coli and bacillus enteritidis sporogenes were selected for this purpose and the result was that there was no material or constant reduction in the number of spores of this pathogenic anaerobe in the effluent as compared with the raw sewage. The author has also carried out some preliminary experiments on the vitality of the cholera vibrio and staphylococcus pyogenes aureus in unsterilized sewage and considers that the death of these microbes is certainly a question of days and probably of some weeks. The lesson to be learned from these experiments is, that the element of time or delay is an all-important factor, and that it is doubtful if any bacterial process in practical operation at the present time treats or detains the sewage for a sufficiently long period to allow of the complete destruction of all pathogenic germs by bacterial agencies.

PREVENTION OF TUBERCULOUS DISEASE.

Dr. Henry Kenwood, assistant professor of public health, University College, London, opened the discussion on "The Action which Can be Taken by Local Authorities for the Prevention of Tuberculous Disease, Apart from the Control of Milk and Meat Supplies." He first reviewed briefly the various measures available which do not necessarily entail a scheme of voluntary or compulsory notification. The first measure was improved sanitation and he considers that the energies of the profession should be directed toward the prevention of over-crowding, securing healthy homes for the lower classes, and improved general scavenging. To these ends oft repeated and systematic sanitary inspection of the tenemented or lodging houses is imperative. It is noteworthy that in the London sanitary areas the more over-crowded groups have higher death-rates at each age period than the less over-crowded, showing what a close relationship exists between phthisis and the housing of the poorer classes. He then discussed educational measures. The dissemination of knowledge must be accomplished largely through individual initiative. A handbill left at the door of the poor man's house is not sufficient for this purpose. He ascribes the very rapid and fairly general diffusion of the education of the masses, which doubtless now exists, to the newspapers. The annual meetings of the British Medical Association, the Sanitary Institute, the Royal Institute of Public Health, the National Health Society, the National Association for the Prevention of Consumption, and the Church Sanitary Association, are all doing much to educate the public on matters of public health, but the greatest means of education lies in the schools, which should instruct the future generation in the elements of hygiene, healthy infant-rearing, and of infection and its prevention. Every means of educating the population must be brought into use by sanitary authority, and this education must be direct, convincing and practical. The registrar of deaths should advise the medical officer of health of all deaths from phthisis as soon as possible after registration, so that the proper disinfection may be made and advice given. Medical men and nurses should be asked to co-operate in advising and directing the necessary preventive measures in infected households. The employment of consumptives in the cooking or selling of food should be prohibited so far as possible. Isolation hospitals and sanatoria should be provided for those already attacked by the disease and notification of infected houses should be made without fail to the local boards of health. The intelligent section of the public realize the enormous benefits which would accrue to the community from a reduction in the prevalence of phthisis to the lowest attainable limit, and the past two years have witnessed an almost invariable recognition of the infectious nature of the complaint, and a readiness to adopt the necessary measures of precaution. The public is prepared to receive the advice and help of the medical profession and the measures which they adopt will not only operate against consumption which is so dreaded, but will at the same time raise the standard of general health, so that the crusade against consumption will be indeed a crusade against the disease.

RURAL PHTHISIS.

SIR H. B. BEEVOR, M.D., physician to King's College Hospital, London, delivered an address on "Rural Phthisis and the Insignificance of Case-to-Case Infection." The death-rate is the best and most reliable index of the incidence of phthisis and a primary indication of epidemic or infectious agencies in any disease is afforded in the irregularity of incidence in that disease. In the County of Norfolk there is a remarkable family likeness in local constancy. The death-rate from 54 series of statistics is alike in each decade, but varies in different decades. This seems to be cogent evidence of the insignificance of case-to-case infection. The author sums up by an adaptation of the remarks of Dr. Andvord, of Sweden, in this regard by saying, "In like places the special constancy of lung tuberculosis does not point to any place among infectious illnesses."

COTTAGES IN RURAL DISTRICTS.

DR. J. S. TEW, medical officer of health for the West Kent Combined Sanitary District, introduced the discussion on "The Provision of Cottages in Rural Districts, and its Bearing Upon Public Health," in which he called especial attention to the urgent necessity for better cottage accommodations in many rural districts, to the desirability of rural district councils undertaking the building of cottages, and to insufficient air-space in crowded cottages which, in his opinion, contributed largely toward lowering the vitality of the occupiers and toward the high death-rate among the working classes from measles, whooping-cough, phthisis, etc., which are usually nursed at home.

DIET IN RELATION TO CANCER.

DR. JOSIAH OLDFIELD, of London, stated that cancer is not a disease which is caused by flesh-eating *per se*, since it has not been found to be largely prevalent among the early hunting tribes who lived almost wholly upon the products of the chase; the disease was increasingly prevalent in England among the aristocracy, despite the fact that the aristocracy of to-day ate less meat than in the time of Queen Elizabeth. The contention of Sir W. Banks that the cause of cancer was the nitrogenous element could not be upheld. Cancer, however, was found more prevalent among the classes who indulge in generous living than among those who live more hardy. Again, the topographical distribution of cancer in temperate climates is along the beds of sluggish rivers. The theory propounded "suggests that under certain circumstances there is present in the cell envelope, and closely connected but not actually transformed by a complete metabolism into cell substance, food matter partly broken down and ready to still further break down, and thus to form a fit pabulum for low organisms. The position of the food, mingled up, as it is, with the cell substance throughout the body, or certain parts of the body, renders it possible only to be utilized by organisms which can invade the cell itself, and which, by the position of their progress in search for their food, must be necessarily pathogenic, and must possess the essential type of invading cell from cell and of penetrating cells throughout and permeating them and passing through them, leaving behind those parts of each cell which were essentially vital, and destroying far ahead those parts of the cells which consisted of that food matter described. The presence of food half assimilated, and thus spread throughout the cells, and the search for and the feeding upon this food by low organisms that would thus necessarily invade, half destroy, and rapidly spread on to other cells without actually destroying all the cell life as they progressed, gives us a picture very like what a malignant growth is in its characteristic features."

CANCER IN EAST ESSEX.

DR. GEORGE MELMOTH SCOTT, Witham, made a report on the mortality from cancer in Chelmsford and Maldon, East Essex. About 1000 deaths from cancer occurred in these two unions between 1871 and 1898. The number of deaths by decades was increased from 6.36 in the first to 7.73 in the second and 8.41 in the third decade. In the first decade 100 women died from cancer, to 51 men; in the second the proportion was 100 to 61, and in the third 100 to 83. Although there has been some actual increase in the number of deaths, the author's impression is that the cause of the apparent increase may lie to some extent in more careful diagnosis. In the author's inquiry he endeavored to test the truth of Dr. Haviland's theory, which postulates that: In the counties having a high mortality from cancer, the tributaries of the large rivers rise from soft marshes or easily disintegrated rocks; that these rivers invariably flood their adjacent districts during the rainy season; and that the districts characterized by the tertiary and more recent clays and other retentive soil have a very high mortality from cancer. The author concludes that the cause of cancer must be looked for in some other direction than in an alluvial and clayey soil subject to floods, because the disease is less common in the county of Essex with its clay soil and numerous estuaries than it is in England as a whole; that, although the unions of Chelmsford and Maldon contain an excessive proportion of marshy land and estuary, their death-rate is below that of the county of Essex; that those parts of the two unions which include the greatest extent of muddy foreshore, creek and saltings have a mortality below that of the two unions taken together, and that the disease is not especially prevalent in those places situated on the banks of the fresh-water rivers.

PRESERVATIVES IN FOOD.

DR. ALBERT S. GRÜNBAUM, Assistant Lecturer in Physiology, Thompson-Yates Laboratories, University College, Liverpool, presented a paper on "Food Preservatives and Coloring Matter in Food, with Reference to Foreign Laws and Conditions."

The enormous extent to which food preservatives are now used, the abuses to which they are put, and the injuries which they may cause, make stringent and definite legislation on the subject necessary. The law is at present too vague and narrow and the magistrates too ignorant for much progress in this direction. Laws requiring any trade to have consideration for public good may reduce but will not destroy profit. He then takes up the subject of milk and wines and beers and details the objection to preservatives and to coloring matters. The public is chiefly to blame for the use of coloring matters, as if brightly-colored foods could nowhere be obtained, the uncolored foods would be bought. The use of preservatives in milk, cream, etc., rests chiefly with railway companies and ice-vendors, and is due to the scanty use of ice in England. He considers railway companies the chief offenders and suggests that injustice may be done by legislating too hardly for the purveyors of perishable foods, unless at the same time rational treatment of the foods themselves is required of their carriers.

HYGIENIC ASPECT OF THE USE OF WATER GAS.

DR. JAMES CHARLES MCWALTER, of Dublin, considered the increasing use of water gas by the gas companies to be a source of distinct danger to the consumers. The dangers were very considerable for more than one reason. The leaking of the mains, the leakages from the house fittings, and the occasional omission to turn off the taps were sources of great danger. Carbon monoxid, together with the other gases leaked through the leaden and composite pipes by osmosis, and water gas might get through at a greater rate than the other constituents. The introduction of considerable admixture of water gas with coal gas in towns had been followed by an "immediate, enormous, and proportionate increase in the number of deaths ascribed to carbon monoxid poisoning." The saturation of the ground air, in towns supplied with water gas with carbon monoxid, was one of the causes of the endemicity of such diseases as enteric and epidemic cerebrospinal meningitis. The official gas testers should return the proportion of carbon monoxid in the gas, and legislative measures should be adopted to prevent the gas companies mixing without warning any proportion of water gas with the coal gas which they supplied. Some more convenient and accurate means should be devised to ascertain the degree of minute proportions of the gas, than the method by absorbing it with cuprous chlorid.

BACILLUS DIPHTHERIÆ IN MILK.

DR. J. W. EYRE made a report "On the Presence of Members of the Diphtheria Group of Bacilli Other Than the Klebs-Loeffler Bacillus in Milk," based upon the observations at the Bacteriological Laboratory of Charing Cross Hospital, London, from which he concludes that several groups of bacilli, exhibiting segmentation, metachromatism and clubbed involution forms are occasionally present in milk; that the bacilli of these groups agree in resembling the bacillus diphtheriæ to some extent, but are capable of being differentiated from it and from each other; that these bacilli arrange themselves according to their color production into three well-defined groups, which are characterized by the coloration of the colonies themselves without the nutrient medium being affected, and by the infiltration of the medium by a pinkish color, the colonies themselves being only slightly chromogenic; that the members of these three groups are non-pathogenic, and that it is practically impossible to diagnose the presence of the true bacillus diphtheriæ in a sample of milk by microscopical tests alone, but that the identity of the bacillus can be established only by careful consideration of its biological and pathogenic characters.

Correspondence.

Tetanus Neonatorum and Hot Moist Climates.

KEY WEST, FLA., Aug. 22, 1900.

To the Editor:—In reply to your query as to the correctness of report of four cases of tetanus neonatorum and one case of tetanus (adult), the result is perfectly correct. I can assign no reason for the high percentage of tetanus, unless it be that tetanus is far more prevalent in warm and moist climates than in cool and dry ones. This I read when I was a student about forty years ago, and my residence here for over thirty-five years confirms it. A very significant fact, lending aid to this explanation, is that although by far the large majority of the cases of tetanus in the adult are traumatic—the adult case reported was from traumatism, a splinter under the finger-nail—yet quite a large number of cases are idiopathic.

While the old women and the midwives attribute tetanus neonatorum generally to some supposed traumatism of the umbilical cord, yet from my experience, I believe that a far greater number of these cases are idiopathic. Recently in my practice a child was born with stiff jaws, and unable to take the breast. This developed into tetanus neonatorum, with tetanic convulsions, opisthotonos, etc. The delivery was an eutocia, the mother a multipara. Had the delivery been a dystocia, the mother a primipara, or the child abnormally large, there might have been a presumption of trauma from pressure or strain on the spinal cord, or from some other traumatic cause; but the origin in this case was either prenatal, congenital, or, at least, synchronous with birth. The mother could recall no prenatal injury to herself. I therefore confidently believe the cause to have been idiopathic. The child died nineteen days after birth. I should like to emphasize some facts, which I am afraid are not as well known as they should be; that tetanus is a self-limited disease; that its natural run is about three weeks, and that there is an element of hebdomadality about it. I have attended hundreds of cases of tetanus neonatorum, and have had only seven recoveries. I do not claim them as cures.

With reference to tetanus traumaticus, of course, the previous history points to trauma of some character.

Now, as to your last enquiry, "Why has Key West, Florida, such a high percentage?" The high percentage obtains not only in Key West, but also in Cuba and the entire West Indies, and I believe universally in the semi-tropics and tropics, not only of the Western, but the Eastern Hemisphere as well, owing to the action of the moist atmospheres, with sudden and great alternations of temperature. We have seven months of continuous hot weather, with the remaining five nearly as hot. Except during the prevalence of a "norther" I have known it here as hot in December or January as in July or August. In the temperate zones you have three very hot months (hotter than any of ours), six pleasant months, and three very cold months (colder than any of ours). Our climate is always moist and enervating, yours for nine months bracing, and dry nearly the whole year. You have better digestions and better foods, especially. Your bodies are well nourished. Your *vis medicatrix* functionates well. Your vitality and resisting powers are great, ours are small. Your faces and red and round, ours pale and thin. Stand on the principal streets of Chicago or on Broadway, New York and then come and stand on Duval street, Key West, or on Calle Obispo (the Broadway of) Havana, Cuba, and compare the difference of the appearance of the people who pass, and I think you will readily conceive why the percentage is high, especially in this disease whose seat is in a portion of the nervous system.

Very respectfully,
J. W. V. R. PLUMMER, M.D.,
City Health Officer, Key West, Florida.

[Under "Florida News," last week, p. 505, we published the showing made by Key West in their health report, which gave four deaths from tetanus neonatorum, equaling 14 per cent. We wrote the health officer for an explanation of the peculiar occurrence and received this reply. The doctor, in considering the cause of tetanus, evidently overlooks the fact that there is such a thing as a bacillus tetani. He lays considerable stress on heat and moisture as etiologic factors in the disease, of course these are the two essentials in the propagation of the bacilli.—ED.]

Castor-Oil in Neuralgia.

OGDEN, IND., Aug. 25, 1900.

To the Editor:—I read with much interest Dr. Moyer's article on castor-oil in neuralgia, and also the article by Dr. Caldwell on the same subject. I have a patient under my care who has suffered for years with supraorbital neuralgia. She has been under the care of various physicians, who have prescribed cod-liver oil and other restoratives, and probably the entire list of anodynes and analgesics. The patient having a history of chronic constipation I began the use of Dorsey's solution, but the attacks returned with their usual severity and regularity. About two months ago I began the use of the following:

℞. Olei ricini
  Glycerini āā ....℥iii
  Tincturæ opii camphoratæ.............℥iv
M. *Sig.* *Teaspoonful at bedtime.*

I have given the above every day since beginning the treatment.

The patient has had but one attack since, and that a very mild one. Her general appearance is much improved, and her chronic constipation is a thing of the past.

The question is whether the theory of Prof. Gussenbauer is tenable, or whether we do not have in castor-oil a restorative agent hitherto unrecognized.

Alva W. Knotts, M.D.

Alleged Army Medical Abuse.

Washington, D. C., August 21, 1900.

To the Editor:—We have been reading recently in the daily press and medical journals about the shortcomings of the British Army Medical Department in Southern Africa. During the active progress of the war we heard nothing but words of praise for the devotion to duty of the Medical Department and its foresight in providing all that was needful for the care of the wounded hundreds of miles from the base of supplies. General officers, themselves wounded, testified to the admirable management which brought their wounded men from the field and transported them in comfort to the base hospitals at Cape Town. Kipling has told the story of one hospital train on its way to the front and thence back to the general hospitals with its load of disabled men. His brilliant description of the return trip conveys a sense of the restfulness and comfort enjoyed by the men who had been gathered up from the battlefield. An air of solicitude for the comfort of the sufferers pervades every sentence of the story and everything which the most judicious provision would be likely to call for as being needful appears to have been at command. Eminent surgeons from civil life were sent out ostensibly to give the benefit of their wisdom and experience to their military confrères, but in reality as inspectors on the part of the British public; and their words have been words of commendation for the excellent work of an overworked department. All this we supposed to be fact and we were proud of the record which our British brethren had made under trying conditions; but a very estimable gentleman, having no experience of war and its methods, visited Cape Town and exposed the shortcomings of the medical department. The daily press spread his views before the public, and now an investigation is in order which will no doubt redound to the credit of the department, for we can not suppose that so many thousand sick and wounded men came back to England from South Africa during the past year without exposing the failure of the medical department to do its duty, if there were such a failure.

Our own Army Medical Department has now become the subject of adverse criticism, which was brought to my attention by some editorial remarks in the last issue of The Journal under the heading "Alleged Army Medical Abuse." From reading the official reports of medical officers in the Philippine Islands, I was under the impression that our troops serving there were very well cared for. On the close of active campaigning some months ago, the army was broken up and distributed for garrison duty in a large number of towns, seaport and inland. Good quarters were provided for them, with plenty of good food and purified water supplies. Under these favorable conditions the sick-rate became reduced to about 8 per cent. of the command. Each detachment or garrison has its local hospital for emergency or trivial cases. There are well-equipped base hospitals in each district for the care of cases of greater gravity, and for the relief of these there are hospitals in Manila with a capacity of about four thousand beds, including a convalescent hospital on Corregidor Island in the mouth of the bay. For the transportation of cases from seaport towns which have no railway connections, the hospital-ship *Relief* does excellent service. It was, therefore, with considerable surprise that I read the editorial in your last issue. On making inquiry, I found your remarks to be based apparently on press despatches from Washington, D. C., dated August 7, 1900, which state that within two days after her arrival in Manila a lady from New York discovered the impoverished condition of the medical department and promptly reported her discoveries to the Secretary of War and other prominent persons. Much stress appears to be laid on the want of sheets, for the lady is represented as having appealed for 500 sheets for immediate distribution. How the discovery of this want of sheets was made is not stated in any of the published articles I have seen. You are kind enough to say that: "In the matter of sheets, which seems to be one of the special points of criticism, there might readily be an apparent defectiveness and yet no very serious hardship to anyone, certainly not to a seasoned soldier, convalescent." You will be pleased, therefore, to know that even this hardship was not necessarily entailed upon any of our sick soldiers in Manila. If this lady had inspected the medical supply depot in that city she would have found a plentiful stock of sheets, as compared with the 500 for which she appealed. From January 1, 1900, till the present time, there have been sent to Manila for hospital use 79,500 sheets, and on August 9, 1900, there were on hand for issue no less than 23,940.

I need say no more about the "alleged army medical abuse."

Respectfully, Charles Smart, M.D.,
Lieut.-Col., Deputy Surg.-Gen'l, U. S. A.

Rambling Notes of a Roving Doctor.

Paris, August, 1900.

PARIS EXPOSITION.

To the Editor:—I have a clipping from an American newspaper regarding the Paris Exposition, in which the writer claims that in the great art gallery, where the different nations have their pictures on exhibition, the United States eclipses them all. Before I read this I had visited and studied with some care this collection, and I had put the United States in about the ninth place, as compared with the works of other countries. We have, it is true, a few good pictures, especially good portraits, but the collection as a whole does not do us credit as a nation possessing a high order of artistic skill. While, I believe, it was understood that France was to have 45 per cent. of the space alloted to exhibitors, she has managed the matter so much to her advantage that she has appropriated at least three-quarters of all the desirable space.

"LA VILLE DE PARIS."

"The Ville de Paris" contains, in my opinion, the most valuable and instructive collection of any one building on the grounds. Here, under one roof, all the best things that Paris has produced may be seen. The engineer can see specimens of nearly every style of work that he will ever be called upon to perform. Systems to drain cities and supply them with pure water, that before its filtration was reeking with germs, are illustrated. Miniature streets are shown, in which different kinds of pavement are exhibited, and their cost and durability are given. The chemist can look into a laboratory where are produced many of the articles that belong to his profession, and can see the appliances used in their production. The physician can see here a hospital bed such as was in use at Hôtel Dieu at the end of the eighteenth century, where four men occupied one small couch, two of them having their heads in opposite directions. In the next room is a modern hospital cot, occupied by a single patient, whose surroundings are so airy and comfortable that it would seem a luxury to take his place and play the rôle of a sick man.

One entire room is occupied by appliances for the study of germ life, their cultivation in different media, and their microscopic examination. The veterinarian can see the morbid changes that take place in the organs of the cow, the sheep and the horse. There, too, is the incubator where eggs are hatched, and the incubator in which prematurely born children are kept alive and made to grow. The policeman and detective will be interested to see how Alphonse Bertillon photographs a criminal so that no disguise that he may afterward assume is able to obliterate his identity.

HYGIENIC BUILDING.

In this building I expected to find much that would interest me, but in this I was a good deal disappointed, for though much of what I saw was very fine indeed, the whole building was full of things that were designed only to grace the residences of the very rich. There were marble basins, marble closets, marble bath-tubs, all placed in beautifully furnished rooms, where the drainage was faultless, but nothing in the way of an improved method of health appliance for the houses in the small towns or villages. Gracing one of the entrances of this building is a statue of Pasteur. Below and around this is a large circular glass case that contains the chemical and bacteriological appliances that he used to demonstrate his first discoveries in these branches of science. There are the flasks in which he illustrated the fact that acid fermentation was caused by the development of living germs, and by which he disproved the long-held doctrine of spontaneous generation of bacterial life. The side walls of the entire entrance are covered with test-tubes still having in them the cultures that he himself made. All these appliances are of interest only because of their association with their great master, but are all sadly out of date as compared with those used at the present time.

PASTEUR INSTITUTE.

One of the most richly endowed of the modern institutions in Paris is the Pasteur Institute. A quarter of a century ago, when I saw the first of this great Frenchman and his work, the quarters that he occupied were most humble and unpretentious. To-day it occupies both sides of a wide street, and the buildings seem to have been erected with a sentiment that was blind to the expenditure of money. On one of those tropical mornings that have followed each other with unprecedented regularity in Paris this summer, I visited this institution to witness again some of its work. At 10 o'clock the great crowds that are being treated with antirabic serum began to gather in the large hall set apart for their reception. These patients were as mixed specimens of humanity as one could well imagine. People from every part of France, soldiers and civilians from all parts of Asia, made up a motley crowd, attracted to this spot by a common impulse, which was to have arrested in its progress one of the most terrible diseases that affects the human race. New patients are always examined before the regular treatment of the older cases is begun. On the morning of my visit there were 15 new cases, but as madness of the dog was proved in only three of these, the balance were sent away and kept under observation. Two women had been bitten by men, and in one of these cases at least the man was drunk and not mad. One hundred patients were given 150 injections by one man in just 45 minutes. In spite of the Pasteur Institute and its antirabic treatment, two men have died in Paris during the first 20 days of July of hydrophobia. In Austria and Germany the smallest dog is not allowed on the street unmuzzled, but in Paris they run at large unmuzzled, and bite scores of human beings every day. After the patients were all treated I took a stroll through the institute, having for my guide T. B. Tupille, who was the first patient treated by M. Pasteur for hydrophobia. This accident has immortalized him, and he is probably prouder of his fame than Pasteur ever was of his own. In front of the main building stands a bronze monument that represents a terrible encounter between a boy and a mad dog. The boy was unarmed, but, slipping a wooden shoe from his foot, he dealt the beast a blow that caused his death. Tupille shows with pride the scars upon his hand that he received in the terrible encounter. It is the time of the summer vacation, and the instructors are away at the seaside enjoying their holiday rest. I saw only half a dozen men at work in the different laboratories, and four of these were from Boston, and whose enthusiasm even a temperature of 90 in the shade could not obliterate. The great library, adorned with busts of Pasteur, Rothschild and Baron Hirsch, was occupied by a single man, who seemed so occupied in his efforts to keep cool that books had little attraction for him. It was the wish of Pasteur that his body should not be interred with the immortals at the Pantheon, but in a crypt beneath the building where he had finished his life work. And there it rests, beneath a monument of exquisite beauty, and though less grand and gaudy than the one a little way off at the Invalides, where rest the ashes of the great Napoleon, each marks the spot where lies one of "the immortal few that were not born to die"; but while the immortality of the one was achieved by the sacrifice of millions of his kind, the other owes his undying fame to the fact that he was the benefactor of his race and the savior of many human lives. Outside of France the efficacy of the serum treatment of hydrophobia is generally recognized as one of the greatest achievements in medicine during the century just closed. While no one here now opposes the remedy with the vehemence of the late Professor Piter, yet I am convinced that the faith in this agent is far less universal in the land of its nativity than it is in foreign countries.

CLINICS AND OPERATING-ROOMS.

When I arrived in Paris this summer I went at once to the Broca to see Dr. Pozzi. He showed me all through his gynecological pavilions, which are perfect models of their kind, and invited me to be present at some operations that he was to do after a few days. I expected when I came to Paris to find the clinics and operating-rooms so full that one could see nothing. I have been here now two months and during that time Dr. Graham, of Chicago, and Dr. Brigham, of San Francisco, are the only American physicians I have seen in a Paris hospital. I find a good many South Americans, but the English-speaking races are not here. At the Exposition you find more Germans than any other class of foreigners, and though a good many Americans come here for a few days, they cut their stay short and go away to Switzerland and Germany, where they are not robbed as they are in the French capital.

INTERNATIONAL MEDICAL CONGRESS.

In many respects the meeting must have been a disappointment to the French profession. In numbers it was two or three thousand less than the Moscow Congress of 1897. Its social element was a sad disappointment to the visiting members. While this was partly due to the tragic death of the King of Italy, still had all the program been carried out it would not have come up to the expectations of those who were so magnificently received and so royally entertained in Moscow. The paper which was most warmly received was that of Dr. Abraham Jacobi. (See The Journal, August 18, page 445.) Although Americans were in the minority, still, in the surgical section, the mechanical aids were to a very large extent devised by American surgeons. W. S. Caldwell, M.D.

Medullary or Subarachnoid Cocain Anesthesia.

Chicago, Aug. 26, 1900.

To the Editor:—At your request I submit the following report on "medullary or subarachnoid cocain anesthesia:"

During the meeting of the International Medical Congress at different times, Prof. Tuffier invited members of the congress to witness his operations, particularly laparotomies under subarachnoidean cocain anesthesia; the details of the experiments and advancements in this method of anesthesia are best given in the words of Tuffier himself, which I take the privilege of quoting from a brochure—which he kindly gave me—of an article that appeared in the *Semaine Médicale,* May 16, 1900. In addition to the statements made in that article, he announced at his demonstration that he had used the anesthetic in 130 cases and did not have a fatality, complication or unpleasantness in any one of them. That the analgesia was complete admitted of no question, as we witnessed four major operations, three laparotomies, including an abdominal hysterectomy and a nephrectomy. The hysterectomy was made on a woman, I believe he said, 64 years old. All of the patients were perfectly conscious during the operation and none complained in the least of pain. There was some nausea and vomiting. Prof. Tuffier says:

> After numerous experiments since November 9, 1899, I have made use of surgical anesthesia induced by the in-

jection of solutions of cocaine in the lumbar subarachnoid space. In a previous communication I mentioned the works of Franck, Bier, Sicard and Sedlovitch, and I also published the results of my experiments. In these communications I also showed the facility and innocuousness of this method of anesthesia. The same was confirmed in a thesis by my interne, Mon. Cadol. I herewith give the precise technique which I have adopted. My operations have been on the lower extremities, perineum, rectum, abdomen, external and internal female genitalia and male genitalia. In all of the sixty-three cases I obtained absolute analgesia and the cure of my patients without early or late complications. The field has now increased and includes intestinal, gall-bladder and kidney operations, nephropexies and nephrectomies. (He has not performed any operations above the diaphragm.) I believe this method to be practical and I will insure success to whoever follows my method of procedure.

I use for these injections Pravaz' syringe, admitting of sterilization. (Hypodermic with asbestos piston.) The needle must be sufficiently long to penetrate easily the space between the skin and the subarachnoid space. This interval varies in length, according to the muscular development and obesity of the patient. The needle must be of platinum. It must be easily sterilized, and be 9 cm. long. External diameter must be 1.1 mm.; the internal diameter .8 mm. It must be solid, so as not to bend when it comes in contact with the vertebral column. Its end must have a short bevel.[3] I employ a 2 per cent. solution of cocaine. This solution must be sterile and recent; old solutions must be discarded. This is important.[4] The fluid injected must be carefully sterilized. I prepare my solution as follows: The solution is exposed to a temperature of 80 C. in a water-bath for fifteen minutes, then it is kept in a temperature of 38 C. for three hours; it is again brought to a temperature of 80 C., then allowed to cool to 38 C. This operation is repeated five or six times in succession. It assures a perfect sterilization; the anesthetic properties of the cocain are not altered. The operative technique is as follows[5]: The patient is in the sitting posture, both arms carried forward. The field of injection is thoroughly asepticized. Locate the iliac crests. An imaginary line connecting these two crests passes through the fourth lumbar vertebra. By injecting beneath that line you penetrate the medulla canal. As soon as you have located with the left index finger this spinous process, tell the patient to bend forward so as to make a big bag. This bending forward causes a separation of 1.5 cm. between the vertebra on which you have your index finger and the subjacent vertebræ. Then it is always wise to tell the patient, "I am going to stick you with a needle; you will feel some pain, but do not move."[6] Make the injection with the right hand. I insert the needle to the right of the vertebral column. about[7] 1 cm. from the line of the spinous process. The needle goes through the skin, through the subcutaneous cellular tissue, through the lumbar aponeurosis, through the muscles of the sacrolumbar region, and penetrates into the lamellar space, and at last penetrates into the spinal canal. As soon as the needle is in the subarachnoid space it meets no resistance, and from it escapes a clear, yellow fluid. This fluid is the cerebrospinal fluid, and escapes drop by drop. The surgeon must never inject a solution of cocain before he has seen the cerebrospinal fluid escape through the needle. After the surgeon has seen this fluid escape through the needle he attaches to the needle a syringe containing 1 c.c. of a 2 per cent. solution of cocain. The injection is made slowly; it should be completed in one minute. The dose injected should not exceed 15 milligrams of cocain.[8] I always employ a 2 per cent. solution. The injection terminated, I rapidly remove the needle and close the needle-puncture with sterilized collodion. Note the precise minute at which the injection is terminated, and then wait. The patient can be questioned as to the subjective sensation which he experiences. After a certain lapse of time, which in our observations varied according to the subjects from about four to eight or ten minutes, the patient would complain of a tingling sensation and numbness of the feet. This numbness extends to the legs. You can now begin to operate. Gradually a sensation to pain and heat disappears. Contact sensation persists. Toward the last the motor system may be affected. From four to ten minutes after the injection analgesia is usually complete. Most often it extends to the thorax: occasionally to the axilla. It is not an approximate analgesia; it is complete; it is absolute, so much so that in a thigh amputation we asked the patient to elevate his stump so that we could better secure the vessels. In the course of the operation the patients, when questioned, would say that they felt only a sensation of contact. One of my patients could hear me saw his femur, and told my assistant that he could not tell whether I was sawing his femur or sawing the table. While doing a vaginal hysterectomy one of my patients felt that something was giving away, when the uterus was being removed, but she experienced no pain. In the course of a lumbar nephrectomy the patient, at the close of the operation, asked us if we were not going to soon begin the operation. The duration of analgesia is from one to one and a half hours. It has always allowed me sufficient time to complete the most laborious intervention.

The position which the patient is made to assume during the course of the operation does not at all modify the analgesia. I have thus always been able to employ that posture best suited to the operative procedure. Like under general anesthesia, I have operated in the inclined posture and in the left lateral posture.

The following incident may happen in the course of the puncture: In subjects whose spinal column is deviated, as in scoliosis, the line of the spinous process can only be found with difficulty, and owing to the fact that the vertebral laminæ have lost their normal relations, the puncture may be difficult. This obstacle, however, can be overcome by patience on the part of the operator. If the needle strikes against a vertebral lamina, change the direction of its point either upward or downward, but do not pull it back and forth. This pulling back and forth along the blunt needle may succeed in breaking it. The better thing to do is to remove the needle. Make another puncture higher up or lower down. The solution must be injected in the subarachnoid space. There is only one sign which permits us to affirm that the needle is in the cavity. I mentioned that sign before; it is the escape of cephalorachidian fluid. If blood escapes through the needle it may be fluid blood or it may be blood with an admixture of cerebrospinal fluid. As to the nature of the blood, you can not decide by simple inspection. We repeat the puncture, and we will not inject until we have seen two or three drops of pure cephalorachidian fluid escape.

Can this method of anesthesia be productive of any accidents? I do not know, but basing my opinion upon my personal observations, I can affirm that I have never seen a serious accident. Usually the patients complain of epigastric weight, the feeling of epigastric coldness; they are anxious; they are nauseated; emesis is frequent. These accidents may occur during the operation, a few minutes after the puncture, but they usually occur in the few hours that follow the puncture. These accidents are very frequent. I have noticed emesis 50 times in 63 operations; the vomit is mucous or bilious; it is not abundant; it yields readily to the ingestion of ice. Headache occurs more frequently than emesis. In two-thirds of the cases it is light headache, a simple heaviness. It disappears in a day following the operation. It can, however, be a very severe headache, provoking insomnia, and disappearing only at the end of forty-eight hours. I have noticed profuse sweats, some

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Note 3—The ordinary needles with very oblique bevel possess one disadvantage. This disadvantage is that the orifice of the needle may only be partially in the subarachnoid space, while the other portion of the needle may be without the sheath, so that the injection may flow partially into the subarachnoid space and partly into the surrounding tissues, so that this needle with a short bevel is what he prefers.

Note 4—In a few of my trials I failed to obtain a complete and perfect analgesia. This failure was due to the fact that I employed an old solution of cocain. The solution was not absolutely limpid. In these cases, by following the unsuccessful injection with a fresh solution the desired result was obtained.

Note 5—In my first case, to make the injection, I used to place the patient in the left lateral position, the thighs flexed on the abdomen and the body bent forward. It has seemed to me that in this position the spinal column is subject to deviations, is subject to flexures, which make lumbar puncture difficult.

Note 6—The patient being forewarned, when the needle penetrates the tissues he does not jerk, and by not jerking he does not deviate the needle from its proper course.

Note 7—When the same posture is used the needle must be inserted perpendicularly from backward forward.

Note 8—If this dose be exceeded, epigastric anxiety is more marked, vomiting is more frequent, but nevertheless even with a large dose I have never observed any alarming symptoms.

dilatation of the pupils, some shaking of the limbs, some rapidity of the pulse; all these accidents have disappeared twenty-four hours after the operation. In 15 cases I noticed an evening elevation of temperature on the day of the operation. This elevation occurred in the absence of any operative complication. On the next day the temperature was normal. In 40 patients I noticed a chill after from ten to fifteen minutes.

Among my patients there were 39 males and 24 females. They varied in age from 12 to 69 years. Sex and age seem to have no influence on this method of anesthesia. I would consider children and hysterical individuals as being poor subjects for this method of anesthesia. I consider it well to put a simple compress over the patient's eyes. Some of my patients objected to being blindfolded.

In closing this I may say that if from one cause or another analgesia was not obtained, this injection of cocain in no wise contraindicates the immediate administration of a general anesthetic, ether for instance. In my first experiments, before I had mastered the technique, it has often happened that I had to etherize the patients after the injection of the cocain. It has seemed to me that it facilitated and made less disagreeable ether anesthesia.

Since my return from Paris, on August 19, I have used this method of anesthesia in three cases, with the following results:

Case 1.—Miss B., Cook County Hospital, aged 22 years; left pyosalpinx, with history of rupture into the intestine. Injection of 15 minims of 2 per cent. solution of hydrochlorate of cocain in the subarachnoid space in the lumbar region on a level with the iliac crests. The needle was easily inserted, the cerebral fluid escaped and about forty seconds were consumed in injecting the fluid after the syringe was connected. The opening, when the needle was withdrawn, was sealed with collodion. The operation was commenced 8 minutes after the injection. Median incision was made; the adhesions were very extensive and firm. It was difficult to separate the tube from the bowel. The wall of the latter was enormously thickened, and I feared that a sinus was present. Careful examination did not reveal one, the tube was removed, the pus sponged out and the omentum drawn over the intestine and pressed down into the pelvis, as the sigmoid was fixed and could not be turned down to protect the abraded surface. The operation was completed by closing the abdomen with figure-8 sutures; no drain. The patient was conscious of the fact that she was being handled, but there was not the slightest pain. She was nauseated and vomited some 6 minutes after the operation began. This retarded the work a couple of minutes. Her pulse at no time exceeded 75, and ranged from that to 60. She did not vomit after the operation. Her temperature that evening reached 102; since then it was normal; no unpleasant symptom has since occurred.

Case 2.—Male, aged 50 years, Cook County Hospital. Varicose veins of the leg; Schede operation. Thirteen minims of cocain. A 2 per cent. solution was used for injection. Anesthesia was complete in 7 minutes. There was some nausea and vomiting during the operation. There was perfect analgesia. The pulse was not accelerated and was strong at all times.

Case 3.—Male, aged 46, Cook County Hospital; sensitive ulcerated stump following amputation for diabetic gangrene. In this case 15 minims of eucain solution were injected. A little difficulty was experienced in getting in between the laminæ. Some nausea and vomiting occurred as with cocain. It was 12 minutes before the analgesia was complete, and there was some return of sensation 10 minutes after the operation was commenced. On the whole it was not as satisfactory as cocain.

I hope that the nausea may be controlled by the addition of atropia to the cocain, and I will try it in my next case. That cocain anesthesia will displace chloroform or ether anesthesia for operations in the abdomen and lower extremities is a question that will take a long period of time to decide. That it will have its special field of usefulness, the same as ether and chloroform, can scarcely be doubted, even though our experience is now so limited.

I beg to submit this report, and will follow it with others as the range of experience increases, and appreciate the compliment paid me in the request for it. Respectfully,

J. B. Murphy, M.D.

Deaths and Obituaries.

Ernst Schmidt, M.D., died at his residence in Chicago, August 26, aged 70 years. He was one of the most prominent medical men of Chicago, had been for thirty years chief of the consulting staff of the Alexian Brothers' Hospital and for many years consulting surgeon to Michael Reese Hospital. He was graduated from the University of Würzburg in 1852, but was obliged to leave Germany on account of his prominence in revolutionary matters. He settled in Chicago in 1857 and soon established himself in active practice. He was always earnest for reform, as was shown by his revolt against established government in Germany, his prominence in the "underground railway," his defense of the "anarchists" in 1886, etc. He had a large practice, but on account of long-standing kidney disease had virtually been retired for three or four years.

Franklin Booth, M.D., an old and much esteemed physician of Elmhurst, Long Island, N. Y., was run over by an electric car August 18. He was taken to St. John's Hospital, Long Island City, where it was found necessary to amputate the right leg below the knee and afterward to amputate the left leg at the knee-joint. He refused to take an anesthetic and bore the operation with great fortitude, but he did not rally and died on the following evening. He was born in 18[illegible] and was graduated from Bellevue Hospital Medical College in 1864. He served in the Civil War as surgeon and had been a member of the Newtown Board of Health and was medical inspector of the board of health in the borough of Queens.

Asa W. Griggs, M.D., West Point, Ga., died August 16, at the age of 73 years. He was graduated in 1855 from the medical department of the University of Nashville, Tenn., and began practice in West Point in 1857. He was an honored member of the Georgia State Medical Association, and was at times its orator and president. He was also for several years professor of principles and practice of medicine in Atlanta Medical College; and many years before, filled the chair of surgery in Oglethorpe Medical College, Savannah.

Moses Warren Kidder, M.D., Lincoln, Mass., died at the Waltham Hospital, from appendicitis, August 15, aged 72 years. He attended Harvard and Berkshire medical schools and was graduated from the latter in 1852. He then went into practice with his father in Lowell, where he remained until 1870. During this time he served as city physician and as a member of the school board. On leaving Lowell he went to Lincoln and there resided until his last illness.

Nelson W. Bates, M.D., Central Square, N. Y., died August 11, aged 72 years. He was born in Lewis County, graduated from the University Medical College, New York, in 1864, served as assistant-surgeon in the One Hundred and Tenth New York Volunteer Infantry in the Civil War and was stationed for two years at Fort Jefferson, Dry Tortugas. He had been a resident of Central Square for nearly fifty years.

Adam Lindeman, M.D., Pittsburg, Pa., died at Mercy Hospital in that city, August 20, after an illness of five weeks, from appendicitis and complications following operation for this condition. He was graduated from Jefferson Medical College in 1884, and had practiced for more than fifteen years in Homewood, a suburb of Pittsburg.

H. P. Hugus, M.D., died July 30 at Kealia, Kauai, Hawaiian Islands, at the age of 60 years. He was a graduate of Jefferson Medical College and practiced at Delmont, Pa., and Orrville, Ohio. Later he went to Los Angeles, Cal., and in 1890 removed to Hawaii, where he has since resided.

E. W. Oliver, M.D., died of cancer of the stomach at Mulberry Grove, Ill., August 15, at the age of 57 years. He was graduated from the College of Physicians and Surgeons, Keokuk, Iowa, in 1874, and had practiced since that time in Mulberry Grove and vicinity.

Carl M. Kelley, M.D., Matamoras, Pa., coroner of Pike County, died August 11, from heart disease at the age of 38 years. He was a native of Scranton and was graduated from the College of Physicians and Surgeons, Baltimore, in 1883.

John H. W. Chestnut, M.D., Philadelphia, died from cancer of the stomach at Dutch Harbor, Alaska, August 5. He was graduated in 1871 from the department of medicine in the University of Pennsylvania.

A. S. Lee, M.D., Oakland, Cal., died from appendicitis while en route from Hamburg to New York, and was buried at sea. He was a graduate of the medical department of the State University.

Samuel A. Kennedy, M.D., died at Shelbyville, Ind., August 22, aged 65 years. He was a graduate of the medical department of the University of Cincinnati, in 1857.

F. W. Sawyer, M.D., died at Evansville, Ind., August 13, at the age of 90 years. He had practiced medicine in Evansville since 1851.

E. T. Cody, M.D., a graduate of Rush Medical College in the class of 1889, died August 11, at Jerome, Arizona.

D. W. Gregory, M.D., Benton, Tenn., was shot and instantly killed in a quarrel, August 13.

Societies.

Coming Meetings.

American Academy of Railway Surgeons, St. Paul, Minn., Sept. 5-6.

American Association of Obstetricians and Gynecologists, Louisville, Ky., Sept. 18-20.

Medical Society of the State of Pennsylvania, Wilkesbarre, Sept. 18.

Medical Society of the Missouri Valley, Council Bluffs, Ia., Sept. 20.

American Electro-Therapeutic Association, New York City, Sept. 25-27.

American Public Health Association, Indianapolis, Ind., Oct. 2-5.

Idaho State Medical Society, Boise, Oct. 4-5.

Utah State Medical Society, Salt Lake City, Oct. 4-5.

Wyoming State Medical Society, Cheyenne, Oct. 9-10.

Mississippi Valley Medical Association, Asheville, N. C., Oct. 9-11.

Tri-State Medical Society of Alabama, Georgia and Tennessee, Chattanooga, Tenn., Oct. 9-11.

Vermont State Medical Society, Rutland, Oct. 11-12.

New York State Medical Association, New York City, Oct. 16-18.

Medical Society of Virginia, Charlottesville, Oct. 23.

The American Public Health Association will meet at Indianapolis, October 22 to 26, instead of the first week of the month as originally arranged.

The Saline County (Mo.) Medical Association convened at the county court room August 13. The paper of the day was by Dr. Mills T. Chastain, Marshall, on "Dysentery."

The Baltimore County (Md.) Medical Society held its regular meeting at the Maryland Yacht Club Fishing Shore, Middle River, on August 16. The subject for discussion was "Surgery in Country Practice," which was participated in by Drs. Robert W. Johnston, Thomas H. Emory, B. F. Bussey and others.

The Las Animas County (Col.) Medical Society at a meeting August 6, discussed the subject of public legislation against tubercular infection. A committee was appointed to draft a memorial to the state legislature, urging the enactment of a law regulating the public care and government of tuberculosis in Colorado.

The Winnebago County (Ill.) Medical Society held a meeting at Rockford, August 14, at which Dr. T. H. Culhane read a paper on "Surgical Treatment of Appendicitis;" Dr. Albert Green, on "Cholera Infantum;" Dr. Stoddard L. Anderson, on "Etiology and Diagnosis of Typhoid Fever," and Dr. E. H. Ochsner, Chicago, on "Surgical Treatment of Perforation in Typhoid Fever."

The Grand River (Mich.) Medical Association held its second annual picnic at Spring Lake, August 16. Dr. O. E. Yates, Holland, was chosen toastmaster; Dr. C. P. Brown, Spring Lake, welcomed the association to Spring Lake; Dr. B. B. Godfrey, Holland, responded to the toast "Bald Heads," and the proceedings were concluded with an address by Dr. J. W. Vanderberg, Holland, the retiring president.

The Lake Keuka (N. Y.) Medical and Surgical Association at its annual meeting at Grove Springs, August 14 and 15, elected Dr. Henry Flood, Elmira, president; Dr. W. A. Macy, Willard, vice-president, and Dr. W. W. Smith, Avoca, secretary. About seventy were in attendance. The next meeting will be held the second Tuesday and Wednesday in August, 1901.

The Lehigh Valley (Pa.) Medical Association at its twentieth annual session, August 14, elected the following officers: Dr. Albert A. Seem, Bangor, president; Drs. C. P. Knapp, Wyoming, W. H. Hartzell, Lehigh, A. H. Halberstadt, Pottsville, and O. H. Sproul, Flemington, vice-presidents; Dr. Charles McIntyre, Easton, secretary; Dr. W. P. Walker, South Bethlehem, assistant secretary, and Dr. Abraham Stout, Bethlehem, treasurer.

The Wells County (Ind.) Medical Society held its midsummer meeting at Poneto, August 14. Papers were presented by Dr. Frederic R. Charlton, Indianapolis, on "Management of Non-Surgical Kidney Cases;" Dr. Albert E. Bulson, Fort Wayne, on "Some Eye Lesions Indicative of Constitutional Diseases;" Dr. Alois B. Graham, Indianapolis, on "Intestinal Diseases in Children;" Dr. G. W. McCaskey, Fort Wayne, on "Some of the Problems and Achievements of Preventive Medicine," and Dr. John N. Hurty, Indianapolis, on "Contagious and Infectious Diseases in Indiana."

The British Columbia Medical Association opened its first annual conference at Vancouver, August 9 and 10. The first day was devoted to perfecting the details of organization, drafting of constitution and by-laws, election of officers, appointment of committees, etc. Dr. R. E. McKechnie, Nanaimo, was elected president; Dr. R. E. Walker, New Westminster, vice-president; Dr. J. M. Pierson, Vancouver, secretary; Dr. J. D. Helmeken, Victoria, treasurer. The scientific proceedings opened with a discussion on "Appendicitis," by Dr. John C. Vavie, Victoria; David La Bau, Nelson, and Thomas W. Lambert, Kamloops. Drs. Simon J. Tunstall, Vancouver, A. P. Proctor, Kamloops, Jakes Midway, and J. H. Duncan, Victoria, then read papers on "Preliminary Tuberculosis, its Prevention and Treatment." A discussion on "Injuries to the Parturient Canal" followed, conducted by Drs. O. M. Jones, Victoria; George E. Drew, New Westminster, and Osborne Morris, Vernon.

The Southern Kansas Medical Society will hold its quarterly meeting at Parsons, September 4. The program includes papers by J. T. Davis, Independence, on "Piles;" A. L. Fulton, Kansas City, on "Inflammation;" J. L. Lehew, Pawnee, O. T., on "Gastric Catarrh;" L. S. Wilson, Monmouth, on "Entero-Colitis;" J. W. Porter, Midway, on "Medical Examinations for Fraternal Insurance Companies;" I. E. Stryker, Baxter Springs, on "Hip Joint Disease;" Wm. Frick, Kansas City, on "Significance of Purpuric Eruptions;" C. P. Lee, Pleasanton, on "Neurasthenia;" W. J. Gillett, Parsons, on "Endometritis;" H. H. Bogle, Pittsburg, on "Hydrophobia;" Thomas Barnett, Fort Scott, on "Tertiary Syphilis;" George S. Liggett, Oswego, on "The Microscope."

The Detroit Medical Society.—A new society has been organized in Detroit, which will be known as the Detroit Medical Society. It already has 228 members. It is intended to admit to membership all regular physicians of Detroit and vicinity, those residing outside of Wayne County being regarded as non-resident members with half-dues. Efforts, heretofore unsuccessful, have been made for some time to unite the two leading societies of Detroit. The new society has been organized by the younger men, and it is the hope of the organizers that it will finally take the place of the two other societies and thus remove the trouble that has so long existed.

The first meeting will take place on September 5, at which time Dr. L. S. McMurtry, of Louisville, will read a paper. The officers of the society are: president, Charles T. McClintock; vice-president, H. W. Yates; secretary, L. J. Goux; treasurer, J. E. Davis.

The American Academy of Railway Surgeons will hold its seventh annual meeting at St. Paul, Minn., September 5 and 6. Papers will be read by Dr. Haldor Sneve, St. Paul, Minn., on "How to Treat the Muscular and Joint Sprains of Railway Employees;" C. O. Hunter, Columbus, Ohio, "Remedies;" Dr. W. W. Grant, Denver, Col., "Fractures of the Elbow-Joint;" Dr. D. S. Fairchild, Clinton, Iowa, "Some Additional Observations on Effects of Injury to Peripheral Nerves;" Dr. W. L. Estes, South Bethlehem, Pa., "Hospital Cars on Railways;" Dr. W. U. Cole, Columbus, "Keloid Growths following Traumatisms;" Dr. F. J. Hodges, Ashland, Wis., "Traumatic Separation of the Sacro-Iliac Synchondrosis;" Dr. Wm. H. German, Morgan Park, Ill., Surgical Shock:" Dr. Edward Boeckmann, St. Paul, Minn., "Silver-Catgut Once More;" Dr. J. D. Griffith, Kansas City, Mo., "Effect of Mauser Pistol Bullets;" Dr. C. A. Wheaton, St. Paul, Minn., president's address, "Some of the Needs of the Academy;" Dr. J. T. Eskridge, Denver, Col., "Some Points in the Study of the Medico-Legal Relations of Neurasthenia, and a Short Study of the Plantar Reflexes;" Judge E. A. Jaggard, St. Paul, Minn., "Some Aspects of Medical Testimony:" Dr. James H. Dunn, Minneapolis, Minn., "The Diagnosis and Treatment of Injuries of the Head;" Dr. M. Cavana, Sylvan Beach, N. Y., "Railway Injuries Resulting from Personal Negligence;" Dr. Wm. C. Bane, Denver, Col., "Chip of Iron in Eye—Examination with Fluoroscope, Negative, and with Sideroscope, Positive—Eye Enucleated—Sympathetic Ophthalmitis Sixteen Days Later—Recovery—Exhibition of Sideroscope;" Judge J. T. Durham, Oneida, N. Y., "The Railway Surgeon, a Valuable Aid in the Settlement of Claims for Damages;" Dr. R. H. Cowan, Radford, Va., "Cocain Analgesia;" Dr. J. F. Pritchard, Manitowoc, Wis., "Non-Constriction Dressings in the Treatment of Fractures;" Dr. J. A. Quinn, St. Paul, Minn., "Remarks on Delayed Union and Non-Union of Fractures."

California Academy of Medicine.

San Francisco, Cal., July 24.

Dr. D. W. Montgomery in the chair.

SYPHILIS.

Dr. Tait exhibited a patient, male, 72 years of age, who, seven weeks previously, had contracted syphilis. The chancre on his penis was nearly healed, but considerable induration remained. He had had a typical syphilitic eruption, and a great deal of cephalalgia, all of which had yielded to mercurial treatment.

FRACTURE OF OLECRANON.

Dr. Caglieri presented a successful case of fracture of the olecranon, treated by the closed method, in contrast with the case of fracture of the patella treated by the open method, which he presented at the last meeting. The patient, about six years ago, fell from his bicycle on his right elbow, fracturing his olecranon at its junction with the shaft of the bone. It was treated by a long anterior splint a week, was in plaster a week, then massage was employed until recovery. The result was perfect. The fragments were held together by means of an adhesive strip above the fragments and another in front of the wrist below, both strengthened by adhesive strips around the arm. Through these loops a rubber catheter was passed and tied under slight traction. The question is asked frequently whether all cases of fracture of the olecranon or patella should be treated by the open method or the closed method; his answer is here as in other questions of surgical importance, that the physician should use his own judgment in the particular case. If he has any doubt of the patient having a useful joint, and is sure of his technique, he should use the open method; if not, he should resort to the closed method.

Dr. Henry Barbat said that the results by this, or any method of treating fractures of the olecranon, are not to be compared with those obtained by wiring the fragments. He admitted that this method was superior to other ordinary methods, because in this way one gets an elastic pull, holding together the fragments. Good results were not to be obtained, however, in cases of fracture of the patella by such a method, because in such fractures one has an entirely different kind of joint to deal with, and there is usually considerable blood-clot in the joint.

Dr. E. E. Kelly thought that it was more difficult to get union in fractures of the patella than in those of the olecranon, because, it being a sesamoid bone, and not having the same blood-supply, there was not the same tendency for the fragments to unite. It also takes great pressure to bring fragments of the patella together. In a case he had had some time before, in which a woman had fallen and injured her knee, the doctor who saw her immediately made a diagnosis of broken patella, and had dressed it by means of adhesive straps. He was called in subsequently, and discovered that the quadriceps extensor tendon was ruptured, the patella being uninjured, and that the straps were pulling the bone away from the tendon.

Dr. Dudley Tait thought that the action and importance of the quadriceps extensor tendon had been made altogether too prominent in the treatment of patellar injuries. It does not have as much action as is usually supposed in the separation of the fragments. Not enough importance is given the peripatellar soft tissues, as a causative factor in the separation of the fragments. Separation is very frequently due also to distension of the joint by blood-clot from behind. It is much better to encircle the fragments of the bone with a suture than to wire them.

GALL-STONES.

Dr. J. Henry Barbat presented a case illustrating the difficulty of detecting the presence of gall-stones, even when present in large numbers. The patient, a woman aged 36 years, began suffering twenty months previously with pains in the epigastric region which did not come after every meal, and were not influenced by the kind of food. There was neither nausea, vomiting, nor icterus. The case was diagnosed as gastralgia and all the remedies in the category were given without avail. Finally lavage was resorted to with immediate relief of the pain as soon as the washings came away clear. The patient improved for a few months but she then began to lose flesh as she was unable to keep down sufficient food, it having become necessary to wash out the stomach after every meal. About this time she noticed more severe pain on the right side and considerable tenderness over the right hypochondriac and lumbar regions. Her physicians also discovered a mass in this locality which proved to be a movable kidney; there was no evidence of trouble with the gall-bladder during all this time. When he first saw her he advised nephrorrhaphy. He stitched the kidney with chromicized catgut, and the patient had no severe pains while in bed, but after her return home they returned, and after three months were almost as bad as ever. During one of her paroxysms he found that the point of greatest tenderness was over the gall-bladder, and after an unusually severe attack detected dulness extending from the region of the gall-bladder toward the umbilicus, but could make out no tumor. The dulness gradually subsided and slight icterus appeared. He then diagnosed obstruction of the cystic duct and advised operation. When the abdomen was opened the gall-bladder was normal in size and position and appeared to be filled with bile. Palpation revealed a large calculus at the apex of the viscus, which blocked the cystic duct. The manipulation loosened the stone and allowed the bile to escape, leaving the gall-bladder a little smaller than when normally distended. It was filled with stones and its walls much thickened.

The stones were removed through an incision in the fundus, the edges of the incision stitched to the abdominal wound, and a rubber drainage-tube inserted. Bile flowed freely from the wound for several days and five stones which could not be easily removed at the time of operation passed out through the drainage tube. The gall-bladder was irrigated every day; after ten days, as no more stones appeared, the drainage-tube was removed and the wound allowed to close.

Three weeks from the day of operation the wound was completely closed and the patient able to be around. She has had no recurrence of pain, and has gained considerable weight. The stones removed numbered 284, and while the majority were not much larger than a grain of wheat, several were fully 2 cm. in diameter.

In all cases of gall-stones the possibility of the subsequent formation of more stones must be considered; if in spite of cholagogues and appropriate diet recurrence takes place the proper operation would be a cholecystenterostomy.

The second case is interesting on account of the large size of one of the calculi, and the length of time the patient suffered before the operation. The patient, a nullipara, aged 42 years, had had sharp attacks of pain in the region of the gall-bladder for ten years, but had never noticed jaundice; a diagnosis of possible gall-stones had been made and the patient given salines, olive-oil, and other popular remedies, but her attacks became more frequent, and more exhausting.

He saw her during one of her seizures, determined a slight fullness below the margin of the ninth rib, and a peculiar fremitus, and advised operation.

The incision was made at the right border of the rectus muscle. The gall-bladder was not very large, and required considerable coaxing to bring it into the wound. The fundus was incised and a number of small stones which lay between the wall and a large calculus which filled the lower three-fourths of the gall-bladder were removed. A gush of bile followed the removal of the large stone. A large number of smaller stones passed at the same time; a medium-sized stone was found in the neck, and beyond this more small stones which occluded the duct. Two retention sutures were inserted, and the abdominal cavity closed off by sewing the peritoneum to the gall-bladder. A rubber drainage-tube was introduced for six inches, and a strip of oiled gauze placed between the abdominal wall and the gall-bladder to prevent too great adhesion, thereby allowing that viscus to be returned to the abdominal cavity after it had been sufficiently drained. Only one more stone was discharged, and after eight days the tube was removed and the wound allowed to close.

DR. **KELLY** said that one objection to cholecystenterostomy is the liability to ascending infection from the intestine involving the liver by way of the cystic duct. He had had a case of this kind, in which he had used a Murphy button for anastomosis, but as the button became plugged, he had to make a second operation three weeks later to remove it. At this operation he saw that the gall-bladder had shrunken and was not larger than a duct.

DR. **TAIT** said that the operation done by Dr. Kelly has been practically abandoned by the men who first used it. In all these cases there is infection of the gall-bladder, which demands drainage. He favored stitching the gall-bladder to the abdominal wound, and thus draining it. He believed cholecystectomy unsurgical.

DR. **BARBAT**, in closing the discussion, said that an ideal operation can not always be done. In some cases it was impossible to bring the gall-bladder to the surface and cholecystenterostomy is the operation indicated. The authorities who recommend delay in operations for gall-stones, are not correct. Operation is justifiable where we have strong suspicion of the existence of gall-stones. In performing a cholecystenterostomy he always uses the Murphy button.

ILEO-COLIC INTUSSUSCEPTION.

DR. **CAGLIERI** presented a specimen removed from an infant four months old who died a few hours after the operation. It was impossible to reduce the obstruction, so about three feet of bowel were resected. This child had been ill for four days before the speaker saw it; the condition had been diagnosed as "bowel trouble."

DR. **BARBAT** thought that early operation should be done in all abdominal cases. He attributed his success in the treatment of such cases to be due entirely to early diagnosis and early operation.

DR. **W. I. TERRY** thought that high injections, when used early are of decided value, and probably would have been so in this case. Had the operator made an artificial anus it might have been better than the method he pursued.

Colorado State Medical Society.

Thirteenth Annual Convention, Denver, June 19-21, 1900.

(Concluded from p. 514.)

SYPHILITIC MANIFESTATION IN THE EAR.

DR. **P. F. GILDEN** said that characteristic mucous patches in the middle ear have been noticed, that gummata have been found, and that these yielded to specific treatment in the same way as in other parts of the body. Inflation of the ear does not increase the hearing, neither does it stop other uncomfortable symptoms. He advocates a thorough trial of specific treatment in obscure ear troubles.

SYPHILIS OF THE THROAT.

DR. **T. J. GALLAHER** discussed the subject of syphilis of the fauces, pharynx and larynx. He said that chancre may simultaneously appear on the tongue and tonsil. The earliest symptom is painful deglutition, which persists regardless of treatment. The mucous patch is similar in structure to the initial lesion. He has seen a gumma of the soft palate which occurred 4½ months after the appearance of the chancre.

BONE AND JOINT SYPHILIS.

DR. **W. W. GRANT** said that many cases of hip-joint and Potts' disease in children are caused by hereditary syphilis. In syphilis there is no tendency to pus formation and to necrosis, and operative interference is seldom demanded. Night pains are characteristic of bone syphilis.

INHERITED SYPHILIS.

DR. **SOL G. KAHN** said that hereditary syphilis differs from the acquired disease in being constitutional from the first. There is no primary stage. The child may be born healthy and vigorous, or puny and delicate. The typically syphilitic child is at birth a wasted, wizened, snuffling, feeble creature, with a weak, hoarse cry, the integument being thrown into folds, giving it the appearance of old age. The nostrils, lips and angles of the mouth are scarred by fissure; the submaxillary glands are hard and swollen; the skin is dry or waxy in appearance. Vesicles are most frequently found on the soles, palms or nates. The crescentic notch or Hutchinson's teeth is of great diagnostic value; the incisors are pointed and narrow at their edges, and furrowed with a crescentic notch.

IS SYPHILIS EVER ACTUALLY CURED?

DR. **FRANK FINNEY** said that even if the syphilitic poison loses its power of infection, it may remain latent until by some external cause it is stimulated to new growth. From the present imperfect knowledge of the pathology of this disease, it is evident that we have not yet arrived at a point where we can apply a treatment which is curative.

PROPHYLAXIS OF SYPHILIS.

DR. **E. STUVER** said that legal restrictions and medical examination of prostitutes not only fail to prevent the spread of venereal diseases, but enormously increase the number of clandestine prostitutes. He advocates a single standard of morals for both sexes, and in conclusion reiterated the conclusions of Dr. Ferd. C. Valentine. (THE JOURNAL, xxxiv, 9, 532.)

SYPHILIS AND TRAUMA.

DR. **LEONARD FREEMAN** said that there is little doubt that under favorable circumstances most injuries heal as rapidly and as thoroughly in syphilitic patients as in others. Primary sores respond unfavorably to irritation arising from cauterization or other causes, and a mixed infection may thus be inaugurated resulting in a suppurating bubo.

Secondary syphilis is less closely related to traumatism than either the primary or the tertiary forms. Eruptions of various kinds can be increased in severity by irritation of the skin, such as excessive perspiration, uncleanliness and rubbing of light clothing. The bad effect of tobacco upon the mucous patches within the mouth is familiar to all. There is no doubt that the severity of a syphilitic iritis can be increased by excessive use of the diseased eye. In tertiary syphilis the effects of traumatism are quite noticeable, although they have been grossly exaggerated. Fractures are sometimes directly produced by gummata. He encountered such a condition in the tibia and had to resort to an amputation. Whether rheumatism is regarded as a major or minor factor in specific manifestations, the fact remains that it is slight injuries that are most productive of results. The restorative process following severe lesions are perhaps too active to permit growth of syphilitic germs, this being analogous to what has been demonstrated by experiments in connection with tuberculosis and osteomyelitis.

SYPHILIS IN ARMIES.

Lieutenant-Colonel Henry Lippincott said that in the United States Army we have not had the support of the civil law as have the military and naval authorities in England, but our commanders and surgeons have done their utmost to prevent a large sick list from syphilis. In the United States Army, the methods are chiefly advisory. In the home station the unfortunate soldiers are segregated. The admissions on account of venereal diseases during 1898 were equivalent to 84.59 cases in every 1000 of the strength present; the average duration of cases was 36.46 days. During the calendar year 1898, 71,250 men were examined for the regular army of the United States; of these, 66,237 were white and 5,013 colored; the total number accepted was 54,896. Of every 1000 examined, 9.71 were rejected on account of venereal diseases. The range of variation in the different armies of the world is interesting. In 1000 healthy men, the number of cases of syphilis in one year in the English Army was 105; Austrian, 9; Prussian, 8; Italian, 7.

TREATMENT OF SYPHILIS.

Dr. W. P. Munn said that an indurated chancre that has not been present more than twenty-four hours on a long prepuce is probably the best situated for complete and free removal, circumcision being the preferable operation. Five years ago he removed a sore which had been pronounced to have all the microscopic characteristics of a ture chancre, and the patient remained free from constitutional symptoms. He uses europhen or acetanilid as a dusting powder. The strong 40 per cent. solution of formaldehyde is the liquid application *par excellence* if the surgeon desires to use one. Constitutional treatment should be deferred until secondary manifestations are apparent. This delay is justified because it renders the liability to error in diagnosis less; the regularity of the disease is not interfered with; the patient himself, then more firmly convinced of the nature of his trouble and the necessity for continuous surveillance thereafter; and as a rule constitutional treatment is not curative before the disease itself has become constitutional. The maximum dose of potassium iodid that he employs is 960 grains daily for a period of over a month. The index of a sufficient dose is the beginning of clinical improvement. He has never discovered that the medication used in health resorts differs from that familiar to all physicians, but patients should be sent to a resort when they will not or can not take proper care of themselves.

STATE MEDICINE.

Dr. W. P. Munn, in the address on this subject, said that problems that lie in the borderland of medical science and statecraft constitute the material for the study of state medicine. Among the triumphs of preventive medicine he enumerated the arrest of Asiatic cholera; the decrease of diphtheria and of typhoid fever; the education of the people concerning tuberculosis; the holding in check of the plague; the discovery of its cause, and the preventive measures now employed, and malaria, its cause and means of propagation. Preventive medicine justifies state control of practice of medicine, for every community is at the mercy of the practitioner of medicine when it comes to the recognition of the various contagious disease, and their accurate diagnosis is essential to public health and the concealment of it a crime. He gave a short historical sketch of the model medical license law which was introduced and passed by the legislature of the state of Colorado and which was vetoed by the Governor. He premised the whole discussion by a brief consideration of the underlying principle, and said in part: Among the subjects of legislative control which have long received the sanction of all legislative bodies and the continued recognition of courts of all nations as lawful, a legal requirement qualification of the members of certain trades and professions stands among the first. In no branch of modern acquirements is the need of control by law more obviously recognized, or enforced with such great strictness as in the interpretation of law and the struggle for administration of justice. No man is permitted to pass judicially upon the problems that affect personal rights, property interests or loss of liberty unless he is "learned in the law." And the moment this man "learned in the law" is elevated by the fortune of politics, the favor of the executive or the confidence of the people to the judicial bench, he is invested with a certain assumption of greater integrity, a temporary infallibility, most pleasing to himself and to those who belong to the same profession. But before anyone can hope to attain this infallibility, he must be a member of the bar, that is, he must have passed an examination before a board of members of his own profession who thereupon decide whether his learning is sufficient in amount and his personality of such character as to make him a desirable associate. If they approve of him, he is by the action of the court "admitted to the bar." Still further and greater formalities are necessary before he can practice in the appellate courts or the Supreme Court of the United States. Learning and good reputation are in each instance the requirements of permission. Thus it will be seen that not every one can go to court and take the time of the court in presentation of cases, not every one is permitted to take upon himself the responsibility of defending property rights, of drawing up legal papers, etc. It is universally adopted that such functions are quasi-public ones and must be exercised only by those who have undergone a proper preparatory course of study.

Stationary steam-engineers are required to pass an examination before an examining board. This is done with a view to minimize the danger arising from the explosion of boilers. In order that the health of the family may not be injured through defective plumbing, the state and the city have assumed the power of examining plumbers. The blacksmith who shoes horses is required by law in the State of Colorado to have a certificate of capacity from an examining board. Now, what the medical profession of the State asked was this: "That the integrity and usefulness of our profession be guaranteed to society, and that standards be established for our members for the observance of which sanction should be given." This and more the state long ago gave to the legal and the dental professions, this and more has been given to many of the trades, but to medicine, and to medicine alone, the veto has denied the right or power to establish standards for our membership.

GASTRIC ULCER.

Dr. W. T. Little discussed "The Symptoms, Prognosis and Treatment of Gastric Ulcer." He gave the history of a woman 22 years of age, who had several recurrent attacks of gastralgia and hemorrhage, extending over a period of four years. When she came under his observation, she had almost daily attacks of gastralgia for several weeks, that culminated in a severe hemorrhage, during which she lost from three to four pints of blood. On the second day of the hemorrhage, she complained of severe epigastric pain and tenderness, which rapidly spread up under the ribs into the sides and down over the abdomen. She lay with thighs flexed, and was delirious, but did not vomit. At the end of twenty-four hours she began to improve rapidly.

BULLET IN SPINAL CORD.

Dr. H. T. Pershing read a paper entitled "Localization of a Bullet-Wound of the Spinal Cord: Removal of the Bullet from the Spinal Canal," in which he reported the following case: Mrs. A., aged 42 years, received two bullet-wounds. One bullet was easily extracted; the other entered the back about the level of the eleventh rib and six inches to the left of the median line. Immediately after the shots, she fell, and experienced a numb sensation from the waist downward, and could not move either of the lower limbs. There was severe pain in both buttocks and thighs, and the control of the bladder and the rectum was lost. The muscles above the waist were under normal control. Faradic irritability was entirely lost in the paralyzed muscles, except a perceptible contraction of the right peroneal group. Plantar, Achilles and knee reflexes were absent; but anal and perineal reflexes lively. The lesion was diagnosed to be located mainly opposite the twelfth dorsal vertebra, extending both upward and downward, but not so far as the upper border of the eleventh dorsal or the lower border of the lumbar vertebra. Skiagraph of the lower spine gave a faint indication of a foreign body between the twelfth dorsal and first lumbar vertebra. Dr. Craig removed the spine and lamina of the twelfth dorsal vertebra, but nothing abnormal was found. The spine and lamina of the eleventh vertebra were then removed, and a foreign body was found in the spinal canal, a little to the right of the median line. This was easily removed; the wound was dressed, and the patient was relieved to a great extent, but there was no restoration of function. The pains returned with former severity, and death, due to exhaustion, occurred thirty-five days after the injury was received. No autopsy was allowed.

FRACTURES OF THE PATELLA.

DR. F. H. MCNAUGHT reported five cases of fracture of patella, in which operative treatment was used. In summarizing, he said that the indications for arthrotomy are: When the fractured parts can not be returned to their normal condition by manipulation; when the fracture is of such a nature that serious primary defect is to be expected; when any suspicion of infection follows the fracture; if the patient is in the best possible condition; if the surroundings are favorable—an aseptic operating-room; if the remote possibility of infection is explained to the patient before the operation.

IMMUNIZATION FOR TYPHOID FEVER.

DR. H. W. MCLAUTHLIN reviewed the literature on this subject, beginning with the experiments of Brieger, Kitasato and Wassermann in 1872, and the work of Dr. A. E. Wright of the English Army, in 1897. He said that the consensus of opinion seems to be that the inoculations with Wright's serum are harmless, and that some degree of immunization against typhoid fever is conferred by them. He expressed a hope that the reports of the inoculations in South Africa would show another stride forward in the praiseworthy efforts to control this great scourge.

HEALTH BOARDS AND DIPHTHERIA.

DR. G. E. TYLER read a paper entitled "The Relation of State and Local Boards of Health to Outbreaks of Diphtheria," in which he described the methods to be used by health officers in their battle with this disease. He said that bacteriologic facilities should be offered free of charge to every citizen. In small communities it is quite out of the question to maintain a bacteriologic laboratory, and it then becomes the duty of the State Board of Health to supplement the work of the local board by furnishing the necessary facilities. The State Board of Health must have a competent bacteriologist, not appointed for political reasons. The culture outfits should be as compact as possible in order that the cost of sending them may be reduced to the minimum. Through the efforts of the Colorado State Board of Health the regulations of the post-office were so modified that a smaller outfit can now be sent and a gain of twelve hours in time was made in the receipt of specimens. In every positive case immediate report will be made by telegraph, and the State Board of Health of Colorado will have depots established in every county on or before Sept. 1, 1900.

The antitoxin should be provided for all infected individuals who can not afford to buy it. The record made by the health authorities should show the exact location of the patient, the number and the names of the rest of the family, and all others known to have been exposed. The milk, water and ice supply should be noted, and the school or Sunday-school visited by the children. The house should be placarded, and quarantine should be maintained until the bacteriologist reports the throat free from diphtheria bacilli. In fatal cases, the funeral should be private and under the supervision of a health officer. The exposed should be given immunizing doses of antitoxin. The state or local board of health should have circulars for public distribution, and one of these should be placed in the hands of the head of the family where the disease appears. Toys with which the child played should be burned, and the room fumigated with sulphur, five pounds to each 1000 cubic feet of space.

DISEASES OF THE BRONCHIAL GLANDS.

DR. J. N. HALL discussed this subject in his presidential address. He said that American medical literature is singularly barren on the subject of the diseases of the bronchial glands. The glands are enlarged in conjunction with involvement of the lymph-glands of the entire body in leukemia, pseudoleukemia, leprosy, syphilis, and general tuberculosis. Primary lymphosarcoma and lymphadenoma also occur, as well as cancer and fibroma. The largest glands are found in connection with disease of bone. Simple lymphadenitis arises from any acute or chronic process—bronchitis, pneumonia, bronchopneumonia, pleurisy, and subacute or chronic changes following measles and whooping-cough, typhoid fever and diphtheria. "Black glands," in Miner's phthisis are frequently seen. In tuberculosis, the bronchial glands become enlarged and granular, undergo cheesy degeneration and are deeply pigmented. In a case at the Arapahoe Hospital, a single gland near the bifurcation of the trachea was an inch in diameter and entirely caseous. Bacilli of tuberculosis are found in bronchial glands, especially in children. In cancer of the lungs or of the esophagus, the bronchial glands are not enlarged, and in gangrene of the lungs, they become gangrenous. The enlargement of the bronchial glands leads to pressure upon contiguous organs, and evidence of such pressure will be found interfering with respiration from compression of trachea or bronchi; hoarseness or aphonia from pressure upon the recurrent laryngeal nerves; dilated pupil from irritation of the sympathetic; contracted pupil from its paralysis; dysphagia from compression of esophagus; tachycardia from abolition of vagus influence; diaphragmatic neuralgia from pressure upon phrenic nerve; edema of the lungs from compression of pulmonary veins. The treatment of diseased bronchial glands in tuberculosis, bronchopneumonia, those following measles and whooping-cough should consist of cod-liver oil, iodid of iron and general tonics. Counterirritation is recommended. If the glands suppurate and pus is near the surface it should be evacuated. Sudden dyspnea, not otherwise accounted for, especially in a child, who from previous disease involving the respiratory tract, may be suspected of having broken-down bronchial glands, would call for the same vigorous measures as if a foreign body had been inhaled.

VALUE OF INSUFFLATION OF ESOPHAGUS, STOMACH AND COLON.

DR C. D. SPIVAK presented a paper entitled "The Diagnosis and Therapeutic Value of Insufflation of the Esophagus, Stomach and Colon," in which he said that the diagnostic value derived from insufflation of the stomach is, 1, determining the capacity of the stomach by the insufflation of a measured quantity of air; 2, the size of the stomach by percussion over distended area; 3, the location of the stomach by inspection, palpation and percussion, the downward and vertical displacement of the viscus can therefore be diagnosed; 4, the patency of the gastric orifices by the rapidity with which the stomach fills up; 5, the shape of the stomach, which may show an intermediate constriction—an hour-glass stomach; 6, displacement, appearance or disappearance of tumors; 7, adhesions.

The diagnostic value of insufflation of the colon is that it aids in determining: 1, location; 2, stenosis; 3, dilatation; 4, tumors; 5, gastro-colic fistula, which may be recognized by the fact that when the colon is inflated the air will eventually distend also the stomach; 6, perforation of the bowel, as suggested by Sutton. (THE JOURNAL, xxxiii, 27.)

Insufflation of the esophagus will indicate the degree of obstruction, and will differentiate between stricture and spasm of the esophagus. It will fill up a diverticulum in the upper third of the esophagus and make it visible. Insufflation will also differentiate between diverticulum and dilatation; for in the latter the air will pass into the stomach, and in the former, the lumen of the esophagus will be obstructed.

The therapeutic value of insufflation of the cc [illegible] been recognized in invagination and volvulus. He [illegible] u [illegible] of insufflation in chronic constipation, and [illegible] foreign body in the esophagus can be pushed [illegible] danger by insufflation than with a bougie, [illegible] be tried in esophagismus.

Therapeutics.

Cancer of the Stomach.

℞.	*Bismuthi subnitratis*	ʒiv	16	
	Acidi carbolici	m. xvi	1	
	Aquæ chloroformi, q. s. ad	℥iii	96	

M. Sig. One tablespoonful before eating. —*Thornton.*

Palatable Creosote Mixture.

℞.	Creosoti	ʒi	4	
	Tinct. gentianæ	ʒii	8	
	Spts. vini rect	℥ii	64	
	Vini xerici, q. s. ad	℥viii	256	

M. Sig. One dessertspoonful four or five times a day. —*Medical Record.*

A Substitute for Alcohol.

In cases of chronic alcoholism, the following will be found a satisfactory substitute for the beverage:

℞.	Tinct. nucis vomicæ	℥ss	16	
	Tinct. cinchonæ comp	ʒiv	16	
	Tinct. *capsici*	℥i	32	
	Tinct. gentianæ comp., q. s. ad	℥vi	192	

M. Sig. One dessertspoonful four times a day well diluted. —*Gould.*

Spray in Acute Colds.

℞.	Acidi carbolici	m. viiss		5
	Ichthyolici	ʒi	4	
	Spts. vini	ʒiiss	10	
	Aquæ destil., q. s. ad	℥iii	96	

M. Sig. As a nasal spray two or three times a day. —*Exchange.*

Stomach Lavage.

℞.	Sodii biboratis	℥ii	64	
	Acidi salicylici	℥ss	16	
	Acidi borici, q. s. ad	℥iv	128	

M. Sig. Two teaspoonfuls to be added to a quart of warm water for washing out the stomach by means of the siphon tube.

For Gravel.

℞.	Sodii bicarbonatis	ʒiss	6	
	Acidi benzoici	ʒss	2	
	Sodii phosphati	ʒiiss	10	
	Aquæ (boiling)	ʒvi	24	

M. Dissolve, filter, and add distilled water ℥vi. Sig. Two tablespoonfuls three times a day in uric-acid gravel. —*Jour. de Med.*

Anaphrodisiac in Gonorrhea.

℞.	Ext. ergotæ fluidi	m. xv	1	
	Tinct. gelsemii	m. v		33
	Potassii bromidi	gr. xx	1	33
	Tinct. hyoscyami	m. xxx	2	
	Syrupi aurantii, q. s. ad	℥ss	16	

M. Sig. Shake. One dose at bedtime. —*Lydston.*

Menorrhagia.

The following is recommended, in *Le Progrès Médical*, for treatment of menorrhagia:

℞.	Salipyrin			
	Potassii bromidi, āā	ʒiiss	10	
	Ext. viburni prunifolii fluidi	ʒv	20	
	Aquæ destil	ʒvi	24	
	Syrupi aurantii	℥iss	48	

M. Sig. A teaspoonful to be taken in the evening the fifth day before the expected period, the same quantity morning and evening on the fourth and third days, three teaspoonfuls on the second day, and four teaspoonfuls on the day before and on the day of the appearance of the menses. —*Med. Bull.*

Sweating of Feet.

℞.	Pulv. aluminis (burnt)	ʒv	20	
	Acidi salicylici	ʒiii	12	
	Amyli, q. s. ad	℥ii	64	

M. *Sig. To be dusted in the shoes.*

Or, when the perspiration is essentially offensive:

℞.	Acidi borici	ʒv	20	
	Tinct. benzoini	℥ss	16	
	Alcoholis	Oi	512	

M. Sig. Apply locally. —*Encyclopedia of Med.*

Rickets (Rachitis).

Kassowitz was the first to advocate the employment of phosphorus. He claimed that the disturbance in rickets was due to a chronic inflammatory process in the osseous tissue, and that phosphorus lessened the hyperemia by restricting the growth of the vessels.

℞.	Phosphori	gr. 1/6		01
	Solve in olei olivarum	ʒiiss	10	
	Pulv. gummi arabici	gr. lxxv	5	
	Syrupi simplicis	m. lxxv	5	
	Aquæ destil	℥iiss	80	

M. Sig. Shake. One teaspoonful daily.

James Stewart: Am. Text-book of Ther.

Or,

℞.	Phosphori	gr. ss		03
	Ol. amygdal. dulc	℥i	32	
	Pulv. acaciæ			
	Pulv. sacch. alb., āā	℥ss	16	
	Aquæ destil	℥iss	48	

M. Sig. Shake and give one teaspoonful three times a day.

A Stable Solution of Cocain.

℞.	Cocainæ hydrochloratis	gr. ii		12
	Aquæ destil	ʒiiss	10	
	Acidi salicylici	gr. 1/6		01

M. —*Jour. de Med de Paris.*

℞.	Tinct. aconiti			
	Tinct. belladonnæ, āā	ʒii	8	
	Tinct. *opii*	℥ss	16	
	Spts. chloroformi	℥i	32	
	Spts. camphoræ, q. s. ad	℥iv	128	

M. Sig. Apply locally in treatment of neuralgia, myalgia, and rheumatism. —*Gould and Pyle.*

Blackheads (Comedones).

℞.	Ichthyol			
	Bismuthi subnitratis			
	Hydrarg. ammoniati, āā	ʒi	4	
	Vaselini	ʒx	40	

M. Ft. unguentum. Sig. Apply at night. —*Louisville Med. Month.*

Herpes Zoster.

℞.	Cocainæ hydrochloratis	gr. v		33
	Vaselini			
	Lanolini, āā	℥ss	16	

M. Ft. unguentum. Sig. Cover the diseased part with a thin layer of the ointment, then apply a suitable bandage. —*Bleuler.*

Oxaluria.

℞.	Acidi nitrici dil	m. v		33
	Acidi hydrochlor. dil	m. v		33
	Infusi serpentariæ	℥i	32	

M. Sig. At one dose three times a day. —*Yeo.*

Hemiplegia After Apoplexy.

℞.	Zinci phosphidi	gr. iii		18
	Ext. nucis vomicæ	gr. x		66

M. Ft. pil. No. xxx. Sig. One pill three times a day. —*Hammond.*

Lumbago.

℞.	Tinct. opii	ʒii	8	
	Liq. ammoniæ	ʒi	4	
	Tinct. cantharidis	ʒiii	12	
	Lin. saponis	ʒx	40	

M. Sig. Apply by rubbing in thoroughly. —*Dr. H. Fuller.*

Vulvitis.

℞.	Liq. plumbi subacetatis	ʒi	4	
	Tinct. hyoscyami	ʒii	8	
	Aq. camphoræ, q. s. ad	℥viii	256	

M. Ft. lotio. Sig. Apply locally, tepid, with a saturated cloth. —*Med. Standard.*

Drink for Diabetics.

℞.	Acidi citrici		1	
	Glycerini			
	Spts. vini gallici, āā		50	
	Aquæ destil		500	

M. Sig. Use as a drink. —*Med. Record.*

Urticaria.

℞.	Sodii phosphatis efferv.	℥iv	128	

Sig. One dessertspoonful in cold water one hour before breakfast, and increase the dose if necessary to produce laxative effect.

℞.	Zinci oxidi	ʒiss	6	
	Acidi carbolici	m. xxx	2	
	Aquæ calcis	℥ii	64	
	Aquæ destil.	℥iii	96	

M. Sig. Apply locally. —*Wolff: Jour. de Med. de Paris.*

Baldness.

℞.	Tinct. cantharidis	ʒiss	6	
	Tinct. capsici	gtt. xx	1	33
	Glycerin	ʒss	2	
	Aq. cologne	℥i	32	

M. Sig. Apply locally. —*Cycloped. Med. and Surg.*

Galactorrhea.

℞.	Ung. belladonnæ			
	Lanolini, āā	℥iss	48	

M. Sig. Apply locally twice daily.

—*Cycloped. Med. and Surg.*

Chilblains.

℞.	Spts. chloroformi	ʒii	8	
	Lin. belladonnæ	℥ss	16	
	Tinct. benzoini comp	ʒii	8	
	Lin. saponis	℥iii	96	

M. Sig. To be applied on lint, but not to be rubbed in.—*Ex.*

Lithemia.

The following as a stomachic:

℞.	Sodii bicarbonatis	gr. xv	1	
	Spts. ammoniæ arom	m. x		66
	Infusi gentianæ comp, q. s. ad	℥i	32	

M. Sig. At one dose, three times a day five minutes before meals.

Or the following as alterative and tonic:

℞.	Liquoris potassii arsenitis	m. iii		18
	Tinct. nucis vomicæ	m. v		33
	Ammonii carbonatis	gr. iv		25
	Spts. chloroformi	m. viii		5
	Infusi quassiæ, q. s. ad	℥i	32	

M. Sig. At one dose three times a day after each meal.

—*Bruce: Treat. in Pract. Med.*

Discharge from the Ear with Deafness.

℞.	Olei verbasci (mullein)	ʒi	4	
	Pulveris acidi borici	ʒi	4	
	Pilocarpinæ muriatis	gr. iv		25
	Glycerini	ʒi	4	

M. Sig. One drop in the ear three times a day. Syringe out the ear each morning.

—*Remley: Texas Med. News.*

Guaiacol.

A new preparation of guaiacol in treatment of tuberculosis, as used in the Policlinique of Lille, is as follows:

℞.	Guaiacol phosphati	ʒiiss	10	
	Extracti gentianæ, q. s.			

M. Ft. pilulæ No. 100. Sig. Two to six pills after each meal, each pill containing one decigram of guaiacol phosphate.

—*Pacif. Med. Jour.*

Ointment in Varicose Ulcers.

℞.	Acidi carbolici	ʒss	2	
	Acidi borici	ʒiiss	10	
	Camphoræ	ʒii	8	
	Icthyolici	ʒv	20	
	Ol. amygdalæ dulcis	ʒiiss	10	
	Unguenti zinci oxidi	℥iiiss	112	

M. Sig. For external use. —*Exchange.*

Dusting Powder for Varicose Ulcers.

℞.	Pulv. iodoformi			
	Pulv. salol			
	Busmuthi subnit.			
	Pulv. charcoal			
	Pulv. cinchonæ			
	Pulv. benzoini, āā	ʒii	8	

M. Sig. Use as a dusting powder.

—*Schwarz: Independ. Med.*

Treatment of Typhoid Fever.

℞.	Tinct. iodin	m. x		66
	Acidi carbolici	gr. x		66
	Aquæ destil.			
	Syrupi simplicis, āā	℥ii	64	

M. Sig. A teaspoonful in cold water every two hours.

—*Miller: Penn. Med. Journal.*

Cardiac Dropsy in a Child.

℞.	Potassii iodidi	gr. ii		12
	Tinct. scillæ	m. v		33
	Tinct. strophanthi	m. v		33
	Spts. chloroformi	m. v		33
	Aquæ destil, q. s. ad	℥ss	16	

M. Sig. At one dose three times a day, for a child of 8 to 10 years. —*Ashby and Wright: Dis. of Children.*

Nephritis in Children.

℞.	Potassii citratis	gr. xv	1	
	Syrupi limonis	m. xx	1	33
	Aquæ, q. s. ad	℥ss	16	

M. Sig. At one dose every four hours for a child of 6 to 10 years. —*Ashby and Wright: Dis. of children.*

Orchitis.

℞.	Morphinæ sulphatis	gr. xvi	1	06
	Hydrarg. oleati	℥ii	64	

M. Sig. Apply twice a day to the indurated part.

—*Marshall.*

Medicolegal.

An Irrelevant Opinion.—The rule in regard to the admissibility of a proffered expert, the Supreme Court of Missouri, in the case of Graney vs. the St. Louis, Iron Mountain & Southern Railway Company, is that the competency of the witness as an expert must be first affirmatively established. He must have special skill in the subject concerning which his opinion is sought to be given. But the opinion of the witness as to his own qualifications, the court declares, is irrelevant, and carries no weight with it. Besides which, the court holds that opinions grounded on mere conjectures or speculation are inadmissible in evidence.

Disorder or Disease.—In his answer, made to a medical examiner, an applicant for life insurance stated that he had not, since childhood, had the disease or disorder of "spitting or raising of blood." But the uncontradicted evidence showed that he had spit blood about a year before the policy was issued. However, it was insisted that, though the insured had spit blood, the spitting was not a "disease or disorder of spitting or raising of blood," as contemplated in the question submitted to him, because he had spit but once, and that, therefore, it was error to hold that an untruthful answer had been made. Not so, however, thinks the Supreme Court of Pennsylvania. It says, Smith vs. Northwestern Mutual Life Insurance Company, that the answer was not true, although a false answer may have been unintentionally made. The applicant may have really believed that he had not had disease or disorder, but he did have spitting of blood; and although it may not have been at the time a disease, with him, as popularly understood, it was at least a disorder, which has been defined to be want of order, irregularity, or derangement of the animal economy. If there had been order in his system, and no irregularity, there would have been no spitting of blood. It was disorder, if not disease, and, having had either, the answer, which he warranted, and may have believed, to be true, was false; and that falsity, the court holds, invalidated the insurance.

Dying Declarations Taken by a Coroner.—Independently of any statutory authority, the Supreme Court of Rhode Island holds, in the case of State vs. Jeswell, that a dying declaration, in which the circumstances of [illegible] rec[illegible] are the subject thereof, taken by a magis[illegible] missible against the accused, if it is clea[illegible] that the declarant fully believed that his [illegible] at the time of making the declaration. Oral and unsworn declarations of the injured person are also admissible in evidence, if it appears that they were made in view of impending death. Such declarations, the court goes on to say, are admissible as evidence against the accused, not because they constitute an exception to the constitutional right of the defendant to be confronted with the witnesses against him, but because they were admissible at common law, and there is nothing in the constitutional declaration to shut them out. However, the court thinks it pertinent to remark in this connection that, owing to the necessary infirmities of dying declarations, and particularly to the fact that they are made in the absence of the accused, and hence without any opportunity to cross-examine or contradict the makers thereof, the law does not look with favor thereon, and they should be received with great caution, and every reasonable opportunity should be given the defendant to ascertain the facts connected with the transaction. So, while the court could not say, as matter of law, that the declaration in question in this case was not admissible without it, it declares that it would have been better satisfied if the trial court had required the coroner to testify as to the condition of the deceased, how he appeared, what he said, and what was said to him by the coroner, regarding the statement and regarding his condition, and also as to whether the statement was read to the deceased before signing it.

Accounted Physician and Patient.—A physician had been called in consultation by the permission of the attending physician, and had seen the patient four or five times. He was informed of the treatment and of the prescriptions. He gave his opinion on the treatment in the past, and not only advised, but ordered, the treatment of the future. He advised a surgical operation. Under these circumstances the second appellate division of the Supreme Court of New York holds, McCready vs. Staten Island Railroad Company, that the relation of patient and physician existed, so as to render admissible in evidence testimony of the latter relating to the statements made to him by the former as to his then present condition, pain and suffering, as statements made to his physician with a view of treatment. It says that he did not take the patient out of the hands of the attending physician, but such, it adds, is not the function of the consulting physician, as implied in the very term. Furthermore, conceding that the physician was an expert, in that he stated that he expected compensation at a fixed rate per diem, the court holds that this would not change the case, for the question was as to the relation that existed between the witness and the patient at the time the testimony in question was elicited by the witness. It may also be noted, in passing, that there was testimony in this case which, if credited, warranted the finding that the railroad accident involved in the case caused a hernia, and the court says that merely because the finding of the jury to that effect accorded with the views of one set of physicians, and not with those of the other set, it could not test the verdict by weighing the medical testimony or by arraying the physicians; for the jury determined the fact upon the evidence, which included these opinions only to the extent that it believed and valued them.

Liability for Wrongful Location of Pest-House.—City of Henderson vs. Clayton is the title, on its second appearance before the Court of Appeals of Kentucky, of an action brought by the latter-named party to recover damages for the location of a city pest-house within one mile of its corporate limits, by reason of which she and her family took the smallpox. She first sought to recover against the city and the municipal officers jointly. But the court held, on the first appeal, that she could not sue the city and its officers jointly, and on return of the case to the circuit court she elected to prosecute the action against the city alone. After this, a trial was had, resulting in a verdict and judgment against the city for $2,775. From this judgment the city prosecuted the appeal, the decision of which is the present subject of consideration. Now, section 3909 of the Kentucky Statutes provides: "It shall not be lawful to locate or maintain any pest-house or other place intended for the treatment of eruptive diseases, or diseases which are contagious or infectious, within the corporate limits of any incorporated city or town, or within a distance of one mile of the boundary line thereof. Any officer of any city or town, or other person, who shall violate the provisions of this act, or in any wise aid or abet therein, shall be deemed guilty of a misdemeanor, and upon conviction thereof in any court of competent jurisdiction, shall be fined not less than five hundred dollars nor more than one thousand dollars, and be liable in damages to any person injured thereby, and if willfully done, such person or his heirs or representatives may recover punitive damages." It will be observed that, while the statute imposes a duty upon the city, it provides a remedy by action only against the city officers in behalf of the person injured. But the court holds that, as the city was authorized by law to establish and maintain a pest-house, the acts of its officers in establishing and maintaining the pest-house in question were its acts, and it was responsible to the party aggrieved, as well as its agents through whose instrumentality it acted. Moreover, the court says that while it said on the former appeal that a common-law cause of action was stated against the city, it was not meant that the petition stated only a common-law cause of action independent of the statute. It holds the averments sufficient to constitute a cause of action independent of the statute, and also a cause of action, which, according to the common law, arises from the violation of a statute enacted for the protection of the citizens, for, from time immemorial, where a statutory duty for the protection of individuals had been violated, it says, an action at common law might be maintained. So, while the above statute is silent as to a remedy against the municipality, nothing being provided as to the remedy against it for its doing what the statute makes unlawful, the court holds that the common-law rule applies; for the wrong is the act of the city whose orders the municipal officers execute, and as the remedy against the officers might, in many cases, from insolvency and the like, be wholly inadequate, this provision of the statute, nothing to the contrary appearing, the court holds, must be regarded as merely cumulative. Wherefore, the court holds that the City of Henderson was liable for such damages as the party suing sustained by reason of the city's violation of this statute, although the latter does not in terms impose this liability on it. And while the verdict was large, the court holds that it was not so large as to justify it in setting it aside, considering the loathsomeness of the disease, and the anxiety and suffering it must have entailed upon the party suing.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Medical Record (N. Y.), August 18.

1 *Extrabuccal Feeding. C. A. Ewald.
2. *Migrated Ovarian and Parovarian Tumors. George M. Edebohls.
3 *Posterior Colpoceliotomy for Lesions of the Adnexa and Uterus; its Indication and Technique. Charles G. Cumston.
4 Hematomyelia, with Report of Three Cases. W. F. Becker.

Philadelphia Medical Journal, August 18.

5 *Military Surgery. (Continued.) W. C. Borden.
6 *The Scope and Aim of the Work of the Section of Tropical Diseases. Kenneth MacLeod.
7 *Interrelation of Pathology and Bacteriology. E. E. Klein.
8 *The Teaching of Pharmacology. Walter G. Smith.
9. *Some Problems in Rural Sanitation. John C. Thresh.
10 *Work of the Surgical Section. Howard Marsh.
11 *The Treatment of Wounded at Sea. Belgrave Ninnis.

New York Medical Journal, August 18.

12 *Congenital Dislocation of the Shoulder, with Report of a Case. John L. Porter.
13 *A study of the Action of Gelsemium upon the Nuclei of the Motor Cerebral Nerves. R. H. Whitehead.
14 *The Treatment of the Morphin Habit—Can it be Cured? James H. McBride.
15 *Enterocolitis. William E. Fitch.
16 *On the Use of Suprarenal Extract in Diseases of the Nose and Throat. Seymour Oppenheimer.
17 Some Observations upon the Ocular Symptoms in Locomotor Ataxia. Paul T. Vaughan.
18 *A New Hypnotic. Warren B. Hill.

Boston Medical and Surgical Journal, August 18.

19 *Surgical Pain. G. Ryder.
20 *The Psychic Factor in Disease. Robert W. Greenleaf.

21 A Brief Report of a Case of Cerebral Abscess of Otitic Origin; Operation; Death. George L. Richards.
22 Purgation with Opium. J. W. Wainwright.
23 A Case of Volvulus Complicated by Peritonitis; Operation; Recovery. W. P. Giddings.

Medical News (N. Y.), August 16.

24 *The Treatment of Acute Alcoholism by Large Doses of Digitalis. Henry P. Loomis.
25 *Subsequent Histories of Patients Apparently Cured under Administration of Antitubercle Serum as an Auxiliary to Climatic Treatment. J. Edward Stubbert.
26 *Acute Anterior Poliomyelitis. E. D. Bondurant.
27 *The Treatment of Wounded at Sea. Belgrave Ninnis.
28. *Some Problems in Rural Sanitation. John C. Thresh.
29 *Modern Pathology. E. E. Klein.
30 *Tropical Diseases. Kenneth MacLeod.
31 A Case of Double Vagina and Double Uterus; Four Pregnancies. Herman E. Pearse.

Cincinnati Lancet-Clinic, August 18.

32 *Treatment of Irritable Ulcer or Fissure. Geo. J. Munroe.
33 Introspection. H. H. Spiers.
34 Consideration of Efficacious Productions of Modern Science in the Realms of Analgesia. W. H. Vail.

St. Louis Medical Review, August 18.

35 *Parasitic Origin of Eczema. Prof. Jadassohn.
36 Case of Typhoid Fever and Diphtheria. John Zahorsky.

Medical Age (Detroit), August.

37 *Fractures of the Vertex and Lateral Regions of the Skull, with Report of Cases. Angus McLean.
38 *Position and Phases of the Uterus. Byron Robinson.
39 Arid Regions in the United States for Consumptives. W. Thornton Parker.

Medical Fortnightly (St. Louis, Mo.), August 10.

40 Surgical Disinfections. Carl E. Black.
41 Diseases of the Stomach. J. M. G. Carter.
42 The Symptomatic Value of Edema of the Thoracic Walls. Dr. Cuffer.

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43 *Asepsis in Obstetric Practice. James U. Barnhill.
44 *Hematoma of the Vulva and Vagina. A. L. Wright.
45 *Puerperal Eclampsia: Its Cause and Treatment. John E. Sylvester.

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46 Address on State Medicine. William P. Munn.

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47 *Three Cases of Head-Nodding and Head-Rotation in Rachitic Infants. D. J. Milton Miller.
48* Naso-Pharyngeal Disease in Pediatric Practice: A Clinical Study. Francis Huber.
49 Perforation of a Tuberculous Bronchial Lymph Node into the Trachea. Sudden Death. A. Calle.
50 Intussusception in an Infant Four Months Old. Relieved by Injection. Alfred Hand, Jr.

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51 Appendicitis. G. T. Twyman.
52 Blood Clot with Pachymeningitis Interna; Report of a Case. W. F. Kuhn.
53 Case of Infantile Myxedema or Cretinism. S. Grover Burnett.

The Oklahoma Medical Journal, August.

54 Hypertrophy of the Tonsils. W. T. Salmon.
55* Shall the Physician Divide the Fee with the Surgeon? W. L. Capell.
56 A Unique Case. W. M. Hatfield.

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57 Legal Restraint in the Treatment of Disease. R. C. F. Combes.
58 Pneumonia. J. M. Clayland.
59 Treatment of Pneumonia. Herbert F. Williams.
60 *A Form of Serum Treatment of Pneumonia. Carl E. Elfstrom.
61 Brief Notes on Pneumonia as Treated by Creosotal. Charles F. Stokes.

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63 Polytrichia—Ecthyma—Acne. John V. Shoemaker.
64 Epileptics, and their Criminal Responsibility from a Medicolegal Standpoint. T. G. Stephens.

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65 *The Degenerative Results of Deficient Ventilation. Chas. M. Denison.
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67 *Autopsy in a Case of Adiposis Dolorosa, with Microscopical Examination. F. X. Dercum.
68 Imperative Ideas in the Sane and their Management. Edward B. Angell.
69 Christian Pseudo-Science and Psychiatry. Smith Baker.
70 Case of Monocular Hysterical Amaurosis in a Girl Eleven Years of Age. C. A. Veasey.
71 On the Use of a New, Safe and Efficient Hypnotic in the Treatment of the Insane; Chloretone. J. Percy Wade.

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72 Morphin and Atropin. M. G. Price.
73 Acne. George J. Monroe.
74 Another Fad Gone. Ben. H. Brodnax.
75 Morphin and Other Drug Habits. C. E. Patterson.
76 Cholera Morbus. S. A. Buchanan.
77 Calomel or Mercurus Dulcis. Edwin W. Pyle.
78* Dividing Fees. W. L. Capell.
79 Lycopus. Brose S. Horne.
80 Treatment of Diseases of the Eye. Wm. Hooker Vail.

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81 *Is the Anglo-Saxon Race Degenerating? James Russell.
82 *Excision of the Testicle, Vas Deferens, and Vesiculæ Seminales at One Sitting for Tubercular Disease. George A. Peters.
83 *Adenoid Vegetations. J. P. Morton.
84 Two Forms of Puerperal Infection, with Cases. K. C. McIlwraith.

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85 *A Case of Cystic Teratoma Complicated with Hemorrhage. Edw. Hornibrook.
86 Practical Lessons Learned from More than One Thousand Abdominal Sections. Emory Lanphear.
87 Treatment of Retrodisplacement of the Uterus. William Jepson.
88 A Case of Perinephritic Abscess Complicated with Myxedema. C. F. Wahrer.
89 Hydrocele. Lewis Schooler.
90 Appendicitis. Frank E. La Force.
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93 The Medical Examiner: What He Does and Why He Does It. Geo. W. Wells.
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96 *The Heart in Relation to Life Insurance. George Wilkins.

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101 Secondary Syphilis. Wm. S. Gottheil.
102 Hemorrhoids; Obstinate Constipation. J. Rawson Pennington.
103 Perspectives of Medical Men and Medical Progress During the Nineteenth Century. Alfred S. Burdick.
104 The Development of Medical Education in America. W. F. Church.

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105 The Management of Contagious Diseases Among Troops. C. P. Wertenbaker.
106 The Bubonic Plague from a Sanitary Standpoint. Chas. F. Craig.
107 What is the Clinical Importance of Albuminuria? H. D'Arcy Power.

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108 Observations in Foreign Clinics. Joseph Mullen.
109 Abdominal Section for Removal of Uterine Fibroid and Cystic Ovary, with Report of a Case. H. A. Barr.
110 *Summer Diarrhea in Children. J. D. Porter.
111 The Surgeon the Greatest Hero of Them All. Jno. O. Scott.
112 *State Legislation and the Medical Profession. James Hall Bell.
113 Chloretone in Cystitis. E. A. Malsch.

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114 Does the Brain Think? H. Gasser.
115 The Influence of the Nervous System on Metabolism. George C. Barton.
116 Tumor of the Superior Parietal Convolution Accurately Localized and Removed by Operation. Charles K. Mills and W. W. Keen.
117 Tumor of the Superior Parietal Lobule Accurately Localized and Removed by Operation with Complete Recovery, Mentally and Physically. Charles K. Mills, W. W. Keen and Wm. G. Spiller.

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118 Preventive Medicine. N. E. Winnard.
119 The Sitz Bath. Charles Shattinger.
120 Reflexes from the Pelvic Organs—The Genital Factor in Nervous Diseases of Women. Byron Robinson.
121 La Grippe—Sequela—Respiration 100. Report of Case. J. Wilson.

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122 Medicolegal Responsibility of the A Pr
Senile Considered Mentally, E
ticularly Concerning their Sexual C
lustrative. (Concluded.) J. J.

AMERICAN.

1. **Extrabuccal Feeding.**—Ewald describes the methods and indications of feeding by other methods than the mouth, the power of the large intestine to take up the nutritive elements; also the effects of subcutaneous injections of nutritive substances, and the methods he uses in both these plans of extrabuccal feeding. He thinks the following combination is the one to be most recommended for dietetic enemas: Two tablespoonfuls (40 grams) of wheat flour are stirred into 150 c.c. of lukewarm water or milk and to this mass one or two eggs and a pinch of salt (3 gm.) are added, and the whole is beaten up with 50 to 100 c.c. of 15 to 20 per cent. glucose solution. The addition of a small amount of alcohol in the form of a glass of claret acts as an analeptic. Such an enema corresponds to 450 calories, of which, to be sure, only a portion fulfill their physiologic destiny. Such a combination may be modified by varying its constituents and adding some peptone preparations, but the more complicated the composition the more difficult is it to recommend and the more probable the production of irritation. He finally mentions the nutritive enema in concentrated form consisting of suppositories of peptonized meat or milk and shows by experiments reported that a fat-free dog can be made to accumulate dog-fat by subcutaneous injections of butter and that it may undergo complete metabolic consumption. Observations on man have shown that the same general principle applies, but the feeding by this method is not to be compared with the nutrient enemata for introducing fat into the system. His conclusions are given as follows: 1. Extrabuccal feeding does not completely replace feeding by mouth, and is not permanently capable of answering the demands of metabolism. In most cases in which this method exclusively is resorted to a state of malnutrition sets in from the outset. An exception to this rule occurs in those cases of gastric fistula in which the operation was necessitated by a benign stricture of the esophagus. 2. For a short time, in weakened individuals whose metabolism is below normal, it may be possible through extrabuccal feeding to increase the nitrogen conversion and even to cause an accumulation of nitrogenous substance and fat. 3. The best results are obtained when it is a question of a temporary replacement of the natural feeding per os, or when extrabuccal feeding is resorted to as an accessory measure to the former. 4. Nutritive enemata are to be preferred to the subcutaneous injection of oil. The applicability of the latter lies rather in isolated cases than as a measure adapted to widespread use in practice.

2. **Migrated Abdominal Tumors.**—Edebohls reports four further cases in addition to the hitherto reported twenty-five or thirty operated on for migrated ovarian or parovarian tumors and tabulates the cases that have been reported.

3. **Posterior Colpoceliotomy.**—The vaginal route for operation in cases of lesion of the adnexa and uterus is advocated by Cumston, who maintains that the abdominal incision should be avoided when possible, and that for all such operations the vaginal should be the preferred route. He reviews the statistics reported by different surgeons and the objections that have been raised. The slowness of the operation is a valid objection in only a small proportion of the cases, and to the objections that the clamps are a serious encumbrance, he says that they should not be employed until the pedicle has formed and the ovaries and tubes are ready to be removed. In all cases that are suitable to this operation, the field is as readily accessible to sight as through the abdominal incision and it has the advantage over the abdominal operation of affording drainage which is advisable since, with that most efficient toilet, some infecting fluid may be left behind. He does not agree that conservative surgery can not be performed by this method or that there is not sufficient space to work. The vagina can be rendered quite as sterile as the abdominal wall, and inasmuch as every operation should be considered in the beginning as experimental, the objection that it is difficult to stop if the condition of affairs is not found to be suited to the method followed fails. He has never seen a case of post-operative enterocele from this method nor heard of a case of intestinal occlusion. If fistulas occur they are in a much better situation than in the abdominal wall. Anterior colpoceliotomy and the lateral colpoceliotomy of Stratz may also be of use in certain cases. He describes the different conditions which he thinks are adapted to this particular operation, such as vaginal fixation, diagnosis of tumors, etc., removal of adnexa, diseases of the tubes, encysted salpingitis, retrouterine hematocele, etc. Extensive adhesions are contraindications to the removal of pathological conditions treated by either this or the abdominal route. A very high position of the adnexa in the pelvis and especially the impossibility of bringing them down low enough to be within reach are positive contraindications for this operation. The same is true of the high position of the uterus. In this method the patient is placed in the lithotomy position, with thighs well flexed, and he also uses the exaggerated Trendelenburg position. The choice of use of ligatures or clamps depends entirely on the preference of the operator; he prefers the latter. He has never seen any advantage in closing the vaginal incision with sutures after the removal of nonsuppurating lesions and rather prefers to insert a wick of gauze which can be removed in three or four days, and within a week or ten days the incision will have been found to be completely closed.

5. **Military Surgery.**—In this installment Borden describes the effects of the small-caliber bullet on the epiphyses of bone and on spongy bone generally. The effects are quite different from those on the harder bony tissues. They are generally clean perforations or groovings, unless the bullet has been distorted by the ricochet, but when the bullet has become deformed its effects will be much more serious. Shrapnel wounds are like those of the old-fashioned bullet of low velocity. The same is true of the old-fashioned revolver wounds. The modern small-caliber pistol will produce effects similar to the small arms of the infantry. Lodged bullets were noticed to be frequent in the Spanish-American, while they are rare in the South African war. The author accounts for this by the condition of the ground on which the fighting was done. In Cuba the battles were fought in the forests and the bullets were interrupted by trees. In South Africa the fighting apparently has been done in the open. As regards the question of removal of lodged bullets, he thinks they should be removed when they are producing dangerous symptoms, when it is possible and when it will not endanger life or invoke more serious trouble than the bullet itself is producing. It should never be removed in the field or field hospital unless aseptic technique is available or the danger that arises from its presence is greater than that from the infection that may arise. Probing for bullets should be entirely abandoned excepting in cases of absolute necessity. The methods of using the X-ray in military practice are discussed and the conclusion reached that it should not be used on the field or in the field hospital as it is not necessary there. The shell wounds are much more serious than those from the small-arms, because of the size and irregularity of their fragments and greater chances of infection. The risks of conservatism in the treatment of such wounds are very great and the judgment of the surgeon will often be severely tested. Wounds from side-arms, etc., present no peculiarities in modern practice. As regards regional injuries, flesh wounds of the head may be considered of minor importance. Wounds of the skull produce a large proportion of the mortality and Dent advises that in every case where the skull is grazed, trephining be practiced for the reason that injury of the brain is almost sure to have occurred. In a certain number of cases, however, the small-caliber bullet penetrates and perforates the skull and the brain with little traumatic disturbance and astonishingly little damage to the individual. This has been one of the greatest surprises since their introduction. The mortality from skull or brain injuries made by the small-caliber bullets in the late Spanish-American war is high. The statistics from the Boer war are not yet available, but it is probable that they will be similar in their results.

6.—See abstract in The Journal, August 18, p. 443.

7.—Ibid., p. 442.

8.—Ibid., p. 443.

9.—Ibid., August 25, p. 510.

10.—Ibid., August 18, p. 442.

11.—Ibid., August 25, p. 510.

12. **Congenital Shoulder Dislocation.**—Porter reports the case of a child four months old, in which a thorough study convinced him that it was a congenital, not a traumatic, case of sub-spinal shoulder dislocation. It was reduced under anesthesia, though there was a tendency to relapse; the head of the bone would not stay in place. He says from his review of the case and the literature that he thinks it is of fundamental importance to determine between traumatic and developmental cases of this lesion, and the pathology of the congenital cases is not sufficiently known to indicate the most promising line of treatment, and that none of the operations that have been done have established a successful method or added much to the knowledge. When the history and measurements prove the case to be developmental and remembering the probable deficiency of development of one or both articular surfaces, early operation before the humeral head has formed itself a new facet under the spine and become itself deformed, offers the best results.

13. **Action of Gelsemium Upon the Motor Nerves.**—The effects of gelsemium on the cells of the motor nuclei of the nerves have been experimentally studied by Whitehead, who concludes as follows: 1. Toxic doses of gelsemium produce chromatolysis of the cells which constitute the nuclei of the motor cerebral nerves. 2. The alterations produced are not specific, but are quite similar to those caused by various other agencies which act injuriously upon motor nerve cells.

14. **The Morphin Habit.**—McBride believes that the sudden withdrawal method of the morphin habit cure is not now practiced, and whether the rapid or slow method of reduction is employed depends on the power of the patient to endure. It is necessary that the patient be completely under control, restricted in his communications and especially from direct intercourse with the rest of the world; otherwise in spite of his desire to be cured, there is a possibility of his obtaining the drug surreptitiously. During rapid reduction he keeps the patient in bed or at least lying down; the amount of each reduction and the length of time intervening varies with the cases. It is possible to shut off large quantities of morphin at once because the system makes very little use of more than a certain amount. The patient should be allowed to recover from the effect of each reduction before the next one is undertaken, especially when the reduction in proportion to the amount last taken, causes suffering; it may sometimes be well to return to the former dose temporarily. The habits of the patient as to taking the drug should be considered, as it makes the matter easier for both him and the physician. To quiet the discomforts during the period of reduction he believes in the use of hot baths, massage once a day and for medicine the bromids are the best, but bromism should never be produced. For tonics and stimulants he prefers quinin, nux vomica, or strychnin, giving the latter in a pill and in small doses. The extract of coca is also helpful. For sleeplessness sometimes all the hypnotics fail, but various ones should be tried. Chloralamid sometimes acts admirably, and sometimes chloral and hyoscyamus produce sleep when nothing else will. When time is not important, a still slower method of reduction is more comfortable for the patient. The quitting of the habit, however, is only a part of the cure; the patient should be placed under environments completely normal which will help him to get it out of his thought, etc., and build up the shattered nervous system. The craving for morphin is often strong for a long time after the drug has been discontinued and the patient should be under control for months or a year before he is allowed to return to his occupation.

15. **Enterocolitis.**—Tannopine is recommended by Fitch as an efficient drug in intestinal disorders. It can be administered with benefit both by the mouth and the rectum and is easily absorbed, is efficient in all forms of enteritis, colitis, and inflammatory intestinal disorders and should be continued in small doses a few days after the bowels appear to be normal. It is completely innocuous and can be given without risk to the smallest infants in doses from 3 to 8 gr. four times daily, and in older children and adults from 7 to 15 gr. It acts by the tannic acid of the compound combining with the albuminous substances, forming albuminates, which causes contraction of the surrounding connective tissues and diminishes reflex activity and sensibility of the muscular tissue. Urotropin the second constituent of this division which takes place in the alkaline and intestinal contents acts as a disinfectant, restoring the integrity of the mucosa and stopping short the process of inflammation.

16. **Suprarenal Extract.**—The use of suprarenal extract in diseases of the nose, pharynx and larynx is discussed by Oppenheimer, who finds that it has two distinct actions: Absolute blanching of the parts followed by almost imperceptible constriction, which increases, however, in some regions, in the nose especially, until the tissues can be contracted down to the osseous structures. It acts only on the mucous surfaces, normal or otherwise, no change being produced in the serous surfaces or unbroken skin. It produces its effects by contracting the arterioles and cavernous sinuses by direct action upon their muscular walls, and its physiologic activity is limited to the area of the membrane brought into direct contact with the drug, differing in this respect from cocain. Its use is mentioned in epistaxis, hay-fever, after operations and in controlling post-operative bleeding. Its action continues in the majority of cases from four to five hours—sometimes even longer. It has no action on the blood itself and does not cause irritation. It is a sedative astringent to mucous membranes in its effects. No vicious habit is liable to be produced, and no special tolerance for the drug is developed; it can be used repeatedly in the same person with the same effects.

18.—See abstract in THE JOURNAL of July 7, p. 52.

19. **Surgical Pain.**—Ryder reviews the whole subject of surgical, and especially abdominal, pain, its signs as shown in gesture and attitude, and the referred pains of various kinds. He advances the idea that the solar ganglion is practically an abdominal brain. In his classification of pain he follows Lomer, of Hamburg, recognizing traumatic pain, contractile pain as shown in visceral lesions, inflammatory pain, and hysterical pain of the abdomen. The significance of abdominal pain is hard to determine in every case. Its location is one of the valuable points settled when elicited by pressure. Rigidity of the muscular wall is the next important aid. The causes of pain from obstruction, strangulation, volvulus, stricture, fecal accumulation, tumors, peritonitis, appendicitis, pelvic disorder, etc., are all noticed in detail with their significance and importance.

20. **The Psychic Factor in Disease.**—Greenleaf illustrates certain propositions which are given as follows: 1. That some cases of illness are simply neuroses without appreciable pathologic lesions. 2. That causes capable of producing such neuroses may act while disease is present and should be guarded against. 3. Purely psychic causes, as shock, grief, and the like, may pave the way for, if not directly cause, profound pathologic disturbance. 4. Attention to the psychic is capable under some conditions of so turning the scale to health that it may arrest, even perhaps cure, otherwise fatal pathologic conditions. 5. Attention to the psychic should be considered a routine measure in the treatment of delirium from toxic causes, as alcohol, belladonna, ether, and the like. 6. Attention to the psychic should also be considered a routine measure in the treatment and in the prevention of delirium in febrile states, as of typhoid. 7. Nurses should be able to enter into psychic relations with their patients; otherwise the value of their services is much lessened and may be harmful. He thinks the value of psychic treatment is not sufficiently appreciated and considers it especially important to nurses. Nurses graduated from the smaller hospitals are better in this respect than those who have had their training in the larger institutions as they are less slaves to routine and have had more special and individual care of patients. Another point which he makes is that the importance of the psychic element in the treatment is emphasized by the modern crazes of "christian science," mental healing, and homeopathy.

24. **Alcoholism.**—This article is the same as that published in The Journal of August 11, with the exception of the cases.

25. **Antitubercle Serum.**—Stubbert reports the subsequent histories of nine cases that have been treated with antitubercle serum in connection with climatic and hygienic measures. He refers to a former paper in regard to this subject, in which 39 per cent. were reported as apparently cured. Those whose histories have been traced are divided into two classes, representing those who have been discharged three and two years respectively. Four have been away three years and in all there seems to be an arrested or very much improved condition if not an absolute cure. In one there remains a slight dulness at the right apex as at the time of discharge. The five that have been away two years are all in excellent condition, and he reports in addition an apparent cure in an advanced case. In addition to these, nine cases are reported of those who have been away for one year at least and have spent at least one winter in their old environment and three other apparently arrested cases. As a résumé, he says that of those discharged apparently cured three years ago, 11 per cent. have remained cured; two years ago, 14 per cent. have remained cured; and 69 per cent. of those who have spent at least one winter in their old environment. He concludes that instead of the hoped-for specific we have in antitubercle serum simply another auxiliary to climate, hygiene and dietetic treatment. The results of two years' study of the subject would seem to indicate: 1. Further confirmation of the conclusions of the preliminary paper in 1898; the use of serum does not tax the functions of digestion or produce gastritis, diarrhea, or loss of appetite; in cases in which bacilli have disappeared, they have been lost while the sputa were still present, whereas in creosote cases the last specimens of sputa still contain bacilli. 2. Immunity seems to be established in apparently cured cases, capable of protecting the patient effectually in his old environment at least two years, and perhaps for a longer period. 3. The fact that cases for treatment must be selected, even among those in the incipient stage, and that it is less effective in low altitudes and city environment, conclusively ranks antitubercle serum among the auxiliaries to climatic treatment of phthisis, rather than as a specific.

26. **Infantile Paralysis.**—Bondurant reviews the history of acute anterior poliomyelitis as it occurs in children, and the difficulties of its diagnosis, and maintains that it is possible by treatment to prevent the contractures, deformities and extreme incapacity so common in the ordinary cases. He thinks after the fever has subsided that massage, tonics, and electricity can all be used, and surgical procedures in some cases. No case of infantile spinal paralysis, however unfavorable, should be regarded as beyond the reach of treatment.

27.—See also ¶ 11, above.

28.—Ibid., ¶ 9.

29.—Ibid., ¶ 7.

30.—Ibid., ¶ 6.

32. **Fissure of the Rectum.**—Patients suffering from rectal fissure usually let it go until it becomes chronic and makes more trouble than would otherwise have been the case. Monroe has never known a case to get well without treatment of some kind. Probably the first thing to do in its treatment is to relieve the constipation, regulate the diet, prohibit the use of alcohol and highly seasoned food, pies and cakes. Tea and coffee are objectionable; the use of laxatives such as compound licorice powder at night two or three times a week, and enemas is advised. The patient should drink plenty of water. He gives frequent enemas and recommends the use of at least two or three quarts of water at a time. For local complications he suggests, after cleansing, peroxid of hydrogen, and later applications of nitrate of silver, 10 gr. to the ounce of water. Five or six applications ought to cure. Next to this he prefers carbolic acid, with one to three parts of olive oil. He has had good results from ichthyol. Before using some of these preparations, it is well to apply a 4 per cent. solution of cocain muriate. In irritable ulcer of long standing, no local applications are used and the preferred of all operations is divulsion with slight cutting through the fissure. The patient should be given chloroform, placed on the left side on the operating-table, and the index fingers should be introduced, back to back, slowly separated and turned in every direction; the bowel should be pinched between the finger and thumb until it becomes soft and patulous. This will take from five to ten minutes and should be done with great care so as not to tear the muscle or mucous membrane. When sufficiently dilated, he takes the knife and draws it through the base of the fissure, frequently in two places, the cut not to be more than one-twelfth of an inch deep which is sufficient to separate the superficial nerves. This converts a chronic into an acute sore. Then the bowels should be kept quiet for two or three days and the wound dressed as a cut ulcer, washing it every day with boracic acid and water or Packer's tar soap and water. If a laxative is needed, give a seidlitz powder or a teaspoonful of sodium phosphate in a glass of hot water. He says that in delayed healing, a few applications of nitrate of silver, 10 gr. to the ounce of water, carbolic acid one to three of olive oil, or balsam of Peru should be sufficient.

35. **Parasitic Origin of Eczema.**—After noticing the difficulties of defining eczema and the term "eczematization" invented by Besnier, Jadassohn says the questions regarding the parasitic origin of the disease are summed up in three questions, in substance as follows: 1. Are there eczemas properly so-called in addition to the morbid processes mentioned? 2. If similar processes not caused by pyogenic infection exist, are they of parasitic origin? 3. Are the microbes in eczematous skin, factors of this process? The author himself does not deny that certain varieties of eczema may develop without the action of the pyogenic micro-organisms. There are lesions in which, by the methods heretofore in use, one can not discover any micro-organisms to which can be attributed any parasitic relation. In these cases we must admit local and general predispositions not readily explained as etiologic factors. In these processes, as in many other diseases of the skin, we can very often determine the micro-organism invasion—staphylococcus and streptococcus. The results of these are dependent on the degree of virulence of the microbe, the local and general predisposition, and upon the nature of the original processes. A long series of very different reactions of the skin results, from slight irritation up to the grave and chronic eczema. These so-called infections can be produced idiopathically without the pre-existence of recognizable morbid processes. Their development and degree depend equally upon the nature of the soil—ordinary primary infections of the skin.

37. **Fracture of Cranium.**—The points made by McLean are: That it is injury to the contents of the cranium, not to the bones, that must be considered in these cases. There may be contusion of the brain without fracture of the skull. There may also be intracranial hemorrhage in simple nondepressed fracture of the cranium. Severe intracranial lesions may occur with very slight external symptoms.

38. **The Position of the Uterus.**—Robinson claims that in the typical normal position of the uterus with the subject in the erect attitude, the uterus should lie in the middle of the small pelvis so that the external os should be about on a level with the inferior border of the symphysis pubis and on a level with the plane of the ischial spines. The axis of the cervix lies in the axis of the pelvic curve and the anteflexion angle is about 80 degrees, with bladder and rectum empty or slightly filled.

43. **Asepsis in Obstetrics.**—First reviewing the mortality from puerperal sepsis and showing that there has been a vast improvement in this respect, Barnhill insists on the need of still further attention to the subject. The dangers of infection are far more to the puerperæ than to those who undergo the great majority of operations in general surgery. In the puerperal condition the absorptive surfaces for diseased germs are far more extensive, the glandular structures more active. The nervous system is more unstrung and the resisting power generally lessened. The avenues of infection are generally through unclean hands, unsterilized instruments, bed-dressings and unsanitary surroundings. Every parturition is essentially a surgical procedure, and until this is recognized

we will continue to have a high mortality. The physician should impress upon his patients the advisability of consulting him early so that he may see that the necessary preparations are made. Just as much care should be taken as if a surgical operation were in view. The hands should be thoroughly washed for several minutes in soap—preferably the green soap—and water; the nail brush should be used, the hands rinsed in alcohol to remove the fatty substances, then in a 2 per cent. solution of permanganate of potash, decolorized in a solution of oxalic acid, immersed in a 1 to 500 solution of mercury bichlorid and finally rinsed in sterilized water. Examinations should be made with the greatest care and not too frequently. All abrasions, etc., should be prevented if possible, and lacerations should be immediately repaired. The average physician shrinks from a surgical operation, fearing more from sepsis than from anything else, yet he does not hesitate to attend cases of confinement with only the most meager preparation. This is a defect which he hopes will be avoided in the future. He mentions some of the unsanitary conditions in country practice and the need of insisting on the greatest caution and care in this direction.

44. **Hematoma of Vulva and Vagina.**—Wright believes that this accident is of very rare occurrence, more so in country practice than in the city districts. He suggests that the influence of syhpillis upon the blood-vessels may have something to do with its origin. A disparity in the diameters of the pelvis and the child's head may also act as a cause. Veins are more frequently ruptured than the arteries, but he doubts that varicose veins are necessarily a preceding cause of hematoma. The dangers of the condition are considerable and may be greatly increased by hemorrhage, especially dangerous if it is internal. The danger is very great if it appears in the vagina in advance of the head during parturition. Delivery should be effected promptly regardless of complications. The forceps is to be preferred to turning, owing to the pressure it may have upon the torn blood-vessels. Early delivery also relieves the local pressure stasis that increases the hemorrhage. The after-treatment must be to look after the patient's general health and restore the loss from the bleeding.

45. **Puerperal Eclampsia.**—The obscurity in regard to puerperal eclampsia, its origin, prognosis, etc., are noticed by Sylvester. He considers the various theories of its causation and seems to favor the idea of the toxic action from deficient elimination, but whether it is entirely due to the kidneys and not any part to the other organs is particularly questioned. He suggests that eclamptic coma may be due to excessive amount of acetone which can be demonstrated in many such cases, and believes that probably not one but several substances combined may be the primary cause of the symptoms. In the treatment it is necessary first to stop the convulsions. In plethoric persons blood-letting should be resorted to sufficiently to reduce arterial tension, while if necessary it might be carried to the extreme and the effects mitigated by the subdermal use of large quantities of normal salt solution. Chloral per rectum is highly recommended, and some advocate the hypodermic use of morphin, the results of which are said by Veit to be unequaled by any other method. The most influence for good, whether medication is used or not, would be in emptying the uterus promptly at whatever stage the convulsions occur. Artificial delivery should be resorted to when the symptoms do not improve under medical and dietary treatment.

47. **Spasmus Nutans.**—Miller reports three cases of this rare disease of which he finds only eighty-four cases reported in the literature. He discusses its symptoms and causes and concludes that it presents a strikingly defined clinical picture which ought not be confounded with the many other conditions associated with it. It can not be a serious organic affection as it has a brief and favorable course and lacks the general deterioration accompanying such, which takes it out of that category. He refers to Ravdnitz' theory that it is of visual origin and analogous to miner's nystagmus, though he admits that this explanation will not apply to all cases. The nature of the affection is still very obscure and can not be explained by any one theory. He does not think the administration of bromid is so essential as are attention to the diet and hygiene and the use of drugs that will favor the general health and relieve any constitutional vice or temporary illness that may be present.

48. **Nasopharyngeal Disease.**—Huber discusses the subject of nasopharyngeal disease as related to pediatric practice and sums up that the removal of lymphoid hypertrophies with cure of the associated nasopharyngeal catarrh and regained permeability of the nose will make it possible to avoid many local pathologic changes, will improve the general health and mental faculties, the speech and hearing and the functions of taste and smell; reflex neuroses of various kinds will be modified or cured, and nasal and supposed pulmonary hemorrhages will disappear. Thoracic deformity will be relieved or cured. The tendency to acute rhinitis, laryngitis, pharyngitis and pneumonia is reduced. The dangers attending large cervical lymph-nodes will be avoided. Various infectious diseases are less likely to occur as well as meningeal infection from the nasopharynx, and ear complications in general.

55.—See also title 78.

60. **Serum Treatment of Pneumonia.**—Elfstrom reports experiments with a method of serum treatment suggested by C. and F. Klemperer. He applied two leeches to one case of croupous pneumonia and in the following eight cases only one leech on the forearm and after squeezing the blood out of the leech, he diluted it with from three to five parts of normal salt solution and heated it to a temperature of 60 C. for two hours. The mixture was then decanted and injected subcutaneously. In the majority of his patients the temperature fell to nearly normal. The patients seemed to be able to leave the sick bed earlier than he could have expected under other treatment. In one case the patient died without a lowering of temperature, and in still another patient, reaction was absent. The quantity of treated blood did not seem to have a deciding effect, but later in the disease a more decided action appears to follow.

65. This article appeared in The Journal of July 14, p. 79.

66. **Creosote.**—The use of creosote in phthisis is discussed by Potter, who, while he does not give up entirely the theory of the bactericidal effect of the drug, favors the idea that it acts more as a sort of tonic and increases the activity of protoplasm. Clinical experience at any rate shows us that the judicious administration of the drug is frequently followed by an improvement in appetite and digestion and better gastro-intestinal action. With these come improved nutrition, improvement in strength, retardation of local disease, and diminution of the secondary symptoms resulting therefrom. He gives it in smaller does than was formerly the case and does not find that guaiacol is a full equivalent. He has yet to see a case of pulmonary tuberculosis markedly benefited with creosote treatment without alimentary improvement. As long as the appetite and digestion remain good it may be proper to increase the creosote and continue the large doses for some time. Perhaps the best plan is that of Anders, to run up to pretty good-sized doses and then drop down to smaller ones again. He has not found it specially valuable in advanced septic stages of tuberculosis, and patients suffering from abuse of alcohol seldom bear it well. Antecedent or coincident diseases that seriously impair the digestive organs often, for that reason, interfere and contraindicate the use of creosote. We must, therefore, be careful not to impose on the impaired organs, and functions already weakened. To do no harm is one of the first rules of therapeutics.

67. **Adiposis Dolorosa.**—Dercum reports the autopsy of the typical original case of adiposis dolorosa reported by him in 1888. The clinical history is repeated in brief and the autopsy findings detailed. The most striking peculiarity was the small size of the thyroid gland, and microscopical examination proved it to be abnormal beyond doubt. T
observed were indicative partly of hypertrophy,
ous small acini which appeared to be in
ment. He thinks the findings are rather surpri
to explain, but it may not be impossible that
hypertrophy following general atrophy of the
also probable that there were other factors,

changes of function that played a part in the peculiar symptoms of this patient. He suggests as not inconceivable that, as a result of deranged thyroid action, some substance was thrown into the circulation which prevented proper oxidization of the hydrocarbons, and also acted as a cause of neuritis and nerve degeneration. There are some features, like diminished sweating, slowness of speech and mental irritability which suggest that other thyroid disease, myxedema. It is worth noting also that in two previous autopsies of adiposis dolorosa, which were not microscopically examined, both thyroid glands gave unmistakable evidence of disease.

78. See also title 55.

81. **Is the Anglo-Saxon Race Degenerating?**—Russell's article is a general discussion of the regressive tendencies of modern civilization. He thinks there are disintegrating processes at work which if carried on will destroy the moral and intellectual stamina of the race, but he has faith in the Anglo-Saxon stock and believes that there will be no such consequences.

82. **Excision of the Testicles.**—In the opinion of Peters, every case of advanced tubercular testicle should be dealt with by operation and if the disease has spread up the vas deferens and reached the vesiculæ seminales the whole tract should be ablated, preferably by the Roux operation. It should be the aim of the surgeon to remove every particle of the disease as thoroughly as in a case of carcinoma, though failure to do so is less disastrous since the resistance of the tissues to tuberculosis is very great. The patient should be placed under the same hygienic conditions as are favorable to recovery from tuberculosis in other parts of the body.

83. **Adenoids.**—Morton believes in the reflex effects of adenoids even in cases where hypertrophy is slight and mouth-breathing only occasionally present. He thinks operation should be performed in every case because of the evil effects of mouth-breathing, their consequences in the production in ear diseases, their making the children more liable to infectious diseases and keeping up a chronic catarrhal condition leading toward atrophic states in later years.

85. See abstract in The Journal, xxxiv, p. 233.

95. **The Insurance Examiner and Health Resorts.**—In no part of his professional work is the physician put to a severer test than in examining for insurance and he is, if competent, specially valuable to the company in health-resorts where the difficulties are far greater and the responsibility heavier than in other situations. Lankford notices disorders met with in these places, the necessity of extra careful examination for tuberculosis, nephritis, etc., and the other diseases like rheumatism, for example, which often seem to be retarded or suppressed in these localities. A special difficulty is the transient character of the population.

96. **The Heart in Life Insurance.**—Under this general heading Wilkins considers the sounds, rhythm, muscular condition, and diseases that may exist without evidence in the physical examinations. The most frequent of all cardiac symptoms is that of mitral regurgitant murmurs. Formerly this was considered a serious matter, but now we know that it may be comparatively harmless. If it occurs in a young man, as yet not completely developed, the chances are in favor of his reaching the expectation of life so far as the heart is concerned. When it is the result of disease past middle life there is greater danger. A quiet, easy life, with plenty of fresh air and the non-use of alcohol or tobacco are favorable as compared with an active worrying condition or dissipation. Aortic regurgitant murmurs are far more serious than is aortic obstruction. It is the cause of many of the cases of sudden death and consequently must be avoided by the insurance companies. In case of heart disease we must look for the causes of death in other members of the family. It is possible for organic murmurs to disappear temporarily or permanently and this should be remembered in the examination. Accentuation of the aortic second sound is to be regarded as of grave significance, especially when observed in a patient past middle life. Disturbances of the rhythm are comparatively frequent and may be purely functional, but may arise from some obscure and serious organic disturbance. He therefore thinks it is well to give the company the benefit of the doubt and throw out the risk. Intermittent pulse is not inconsistent with perfect health. Hypertrophy of the muscular substance of the heart without valvular disease is more frequent than is generally supposed. In young people without a change in the aortic sounds, it may or may not be of grave significance, but in advanced life it should be carefully considered. Of those diseased states in which nothing is revealed by physical examination, the best marked is angina pectoris, and where there is the least suspicion of this disorder the medical examiner should postpone accepting the risk. Cases of mitral stenosis or double valvular murmur he considers also too hazardous, as are likewise aortic cases even in the young. When functional murmurs appear, he thinks it advisable to postpone the acceptance of the risk for a few months unless the applicant be willing to accept a loaded policy. When it is associated with anemia he would certainly advise postponing, when due to other causes, a very slight addition to the rate will cover the extra risk. The occupation of the applicant has an important bearing. Excessive or increased blood-pressure and any occupation requiring it, with symptoms of diseased valves, should exclude life insurance ordinarily, but with a sedentary life, provided the applicant is not a speculator, who is to be dreaded as much as a hard-working man, the case is different. The clerk with the small income, which satisfies all his wants, although he may have a leaky heart, may easily reach his expectation so far as life insurance is concerned.

110. **Summer Diarrhea in Children.**—Porter believes summer diarrhea in children to be the same as cholera morbus in the adult. For the treatment in many cases simple stoppage of food will be sufficient; for prophylaxis, cleanliness. Diluting the food with water is indicated as the weather grows warmer, the system does not need so much in summer as in winter. When the attack is serious all food should be stopped from twelve to twenty-four hours and as long as vomiting continues. Use plenty of sterilized water and in a few hours give rice, barley and albumin water. If the vomiting has ceased, the child may be nursed for two to three minutes at intervals of not over four to six hours and have plenty of egg water or plain boiled water between times. For artificially fed children he would have all food sterilized and well diluted, and he says he has had as good success with condensed milk as with anything else except cow's milk, and sometimes better even than that. For the mechanical treatment he would advise flushing of the colon, especially if the fever is high, repeated every three to six hours, always using cold sterilized water; not more than one foot of pressure should be used, as there might be danger of rupture of the bowel, and it is easier to retain. He always begins treatment with laxatives; calomel in small doses is best, combined with sodium and salol to begin with until there is the characteristic dark stools, then large doses of bismuth subnitrate, pepsin and zinc sulphocarbolate, either in powder or solution, preferably the latter. It is not a bad idea to continue small doses of calomel, 1/20 gr. every four hours for a few days. Never use opium when it can be avoided, only in extreme nervousness or to protect the child from its mother, who is sometimes liable to hinder the treatment. In cases that have become chronic his ideal is zinc sulphocarbolate, or better, copper arsenite. He gives this, 1/25 gr., in two ounces of water, in teaspoonful doses every two hours, and finds it especially useful in these cases. Never begin treatment with astringents; use stimulants when indicated.

112. **State Legislation and Medicine.**—This article is of interest as showing up the state legislation of Texas. It gives an account of the New York Medical College of San Antonio, which graduated a negro field-hand in seventeen days, and where the professor of diseases of children is the 6-year-old child of the proprietor. The legislation which charters such an institution and makes diplomas from such legally chartered establishments the only requisites to practice, is shown up. He suggests concentrated action of the profession to bring about a better condition of things. The article was prepared before the charter of the New York Medical College was revoked.

FOREIGN.

British Medical Journal, August 11.

Prevention of Insanity. R. Percy Smith.—The increase of insanity is first noted by Smith, and the fact that in spite of all the attempts to show that it is due to the accumulation of senile cases and to a diminished death-rate, yet we have to admit that the condition is increasing. His statistics have already been noted in the report of the meeting of the British Medical Association (The Journal, xxxv, p. 511). He then calls attention to three items in particular, viz., propagation of the race by those of insane inheritance or those who have suffered from insanity. The question whether persons with marked heredity of insanity should marry is treated and the fact that in many cases family interests, ignorance, etc., force such marriages is duly noted. He thinks it is the duty of the medical profession to give sound advice to those who consult them in the matter, and not to lose sight of the fact that heredity is the largest cause of insanity, as shown by statistics. While there may be a doubt as to the marriage of persons of insane heredity, there can be no question as to the impropriety of it in cases where persons have themselves suffered from an attack. These marriages should be absolutely forbidden, and yet cases occur where persons have sinned against knowledge, as, for instance, physicians marrying their patients, etc. The question whether it is right for persons to beget and have children after having had an attack of insanity is also mentioned. The new civil code in Germany gives three years continuing insanity as ground for a divorce, but he questions whether this would be allowed in Great Britain, though he thinks, in spite of the objections to such an enactment, it would aid in putting an end to the reproduction of bad stock. It might be thought superfluous to comment on the iniquity of congenital imbeciles being allowed to marry were it not that this has occurred in many cases where large property interests were involved. Again marriage ought not to be permitted in case of chronic epileptics of any type. [The statement here made is a sort of reflection on the ruling families of the monarchical countries of Europe, and might bring the author under the penalty of *lèse majesté* in some of them.] The influence of alcohol on the production of insanity is shown by the author to be of importance, and similarly the relation of syphilis to general paresis. He believes that the latter should be considered a preventable disease and that if syphilis were controlled it would lead, to a great extent, to its disappearance.

The Lancet, August 11.

Structural Lesions in Urethro-Stenosis. Reginald Harrison.—Harrison's article on "The Remote Results of Structural Lesions—Interventions Sanglantes—in Urethro-Stenosis" ends with the following: The conclusions arrived at from the examination of structural lesions used in the treatment of urethral strictures may be summed up as follows: 1. That there is evidence to show that in peri-urethral strictures of the deep urethra the effects of divulsion as practiced in Perrève's and Holt's operations may be limited to rupturing the dense stricture bands in the submucosa of the urethra, while the mucous membrane itself escapes any serious injury or laceration and is merely restored by stretching to its original dimensions. Here a permanent cure may result. On the other hand where the mucous membrane is in itself the seat of stricture and forms part of the latter structurally, it is necessarily torn or lacerated by the process of sudden divulsion, and the pathologic condition consequently becomes assimilated with that of traumatisms of the urethra from external violence accidentally applied, which are followed by strictures of the most contractile and recurrent form. 2. That there is evidence to indicate that where the entire thickness of the stricture can be included within an incision of moderate dimensions made by an internal urethrotome the normal caliber of the urethra may be completely and permanently restored. Where this happens it may be concluded that all the fibers of contraction constituting the stricture were divided at the time of operation. And further that the converse is equally true. There is also evidence to show that the absence of recurrence under such circumstances is not necessarily dependent on the use of a bougie, though the latter is a precautionary measure which should invariably be advised. 3. That in the case of multiple stricture or strictures of the deep urethra of considerable dimensions either in their length or thickness treated by an internal incision of corresponding proportion, apart from other considerations, the tendency to recontraction and recurrence with an additional amount of cicatricial material, is frequent; the latter being probably due to the circumstances under which healing takes place in wounds of these dimensions so situated. 4. That lesions of the urethra demonstrate in various ways the poisonous effects that unprotected and unconfined urine is capable of exercising both on the body generally and on the tissues in contact with it, and that the liability to such effects is greatly diminished where drainage and irrigation render these conditions of the urine unlikely. 5. That in the case of recurring stricture previously treated by incision and in primary strictures of such length or extent as to require an internal section of corresponding size or as to which there might be doubt as to whether it would be safely possible so to include them, for the purpose of the operation and its results such wounds should be made with due regard to other surgical principles in addition to the one pertaining to the division of the contraction. 6. That there is direct evidence to show that the tendency to recontraction and recurrence of stricture after internal urethrotomy is largely diminished by the concurrent employment of systematic and efficient urine and wound drainage such as the combination of external urethrotomy, or perineal puncture affords.

The Indications of Thyrotomy. Felix Semon.—The indications of thyrotomy according to Semon are: 1. Foreign bodies in the larynx. 2. Injuries to the larynx. 3. Laryngocele. 4. Stenosis of the larynx. Acute laryngeal perichondritis. 6. Laryngeal tuberculosis. 7. Scleroma of the larynx. 8. New growths in the larynx; (*a*) Benign growths, and (*b*) malignant. In the case of foreign body there can be little divergence of opinion as to the propriety of first trying every possible method where practicable of removing it by the natural route, but he cautions that under no circumstances is it advisable to allow the foreign body to remain impacted in the larynx, no matter whether it produces serious symptoms or not. He has seen and recorded cases where such a course produced very serious consequences and, considering that thyrotomy is a comparatively safe operation in healthy persons, we should not hesitate to have recourse to it if any attempts at intralaryngeal removal failed. If the case were not suitable for this method we should not hesitate to perform thyrotomy with or without preliminary tracheotomy, according to the special needs of the case. In the case of severe fracture of the larynx by bullet-wounds, etc., the possibilities of thyrotomy to set matters right can not be questioned. In case of laryngocele where symptoms are threatening, thyrotomy followed by extirpation of the cysts would be indicated. In stenosis he thinks it is likely that this will be performed more frequently than it has been in the past. The recurrence of stenosis after intubation is a contingency which he thinks gives this operation a future, and particularly in cases of hypertrophic stenosis with enormous fibroid thickenings of the mucous membrane, excellent results may be obtained. The indications for thyrotomy in acute laryngeal perichondritis are likely to remain rare in spite of Schüller's recommendations; occasionally, however, it may be of use. In laryngeal tuberculosis the indications are that the operation is optional in circumscript lesions and preferable in patients whose general state of nutrition is good even if their lungs should be considerably affected. It is not desirable under opposite conditions. There is one serious drawback and that is the danger of tubercular infection of the wound. In scleroma of the larynx, thyrotomy, occasionally to be followed by methodical dilation, appears to be a sovereign operation. As regards new growths, especially benign ones, no external operation should be performed until surgery has unsuccessfully endeavored to remove it by the natural way. Still he thinks that one ought not to be too dogmatic and in individual cases no generally accepted canon should be the rule. In cases of multiple papillomata in children attempts at intralaryngeal removal ought to precede external operation, but unfortunately cases will occur where the conditions are unfavorable. Personally, he would in these cases be in favor of prophylactic tracheotomy, the child wearing its tube until it has grown up sufficiently to assist intelligently in intralaryngeal removal of the growths. Here we should remember the chance of losing the tube and death occurring. With malignant growths we have the most frequent and important causes of thyrotomy, and its results nowadays in really suitable cases are of more than encouraging nature. It is of the utmost importance that the diagnosis should be made in time. In those cases where the disease is still limited without infiltration of the glands, thyrotomy will be found to suffice not only for the radical extirpation of the disease but also for the prevention of recurrence. Semon claims to have succeeded in lastingly curing 83 per cent. of all the patients on whom he has operated. In very advanced cases, of course, no operation may be necessary and in some complete laryngectomy may be required.

A New Disease with a Specific Urinary Reaction. N. F. Surveyer.—The author describes the case of a young Parsee woman who suffered from a vesicular eruption and conjunctivitis, with febrile symptoms following an injury. He examined the urine and on adding a drop of strong caustic soda solution to the centrifugalized deposit, with a view to testing for pus, he found that the urine assumed a bright pinkish-purple in color. The precipitate was scarcely, if at all, soluble in any of the solvents tried. The reaction could be obtained by adding any other alkali and was obtained after more than five months. Heat did not destroy the reaction. On recurrence of the attack there was pain in the ear, but the eye was less affected than at the first attack.

He has not found this modified reaction in any other case, and since the patient has recovered, did not see it any further. He has never seen anything like it in 195 cases of urine analysis, but if carmine is added in due amount to healthy urine the reaction is at once obtained; this is soon destroyed by hydrogen peroxid. Tinc. chlorof. c., which contains carmine, had been given, and to be sure that the carmine had nothing to do with the reaction he availed himself of the opportunity afforded by the second attack when the drug was withheld, yet there was no difference. The blood was examined for the reaction with negative results. As regards the nature of the disease he abstains from making any observations at the present time.

Annales de Dermatologie (Paris), July.

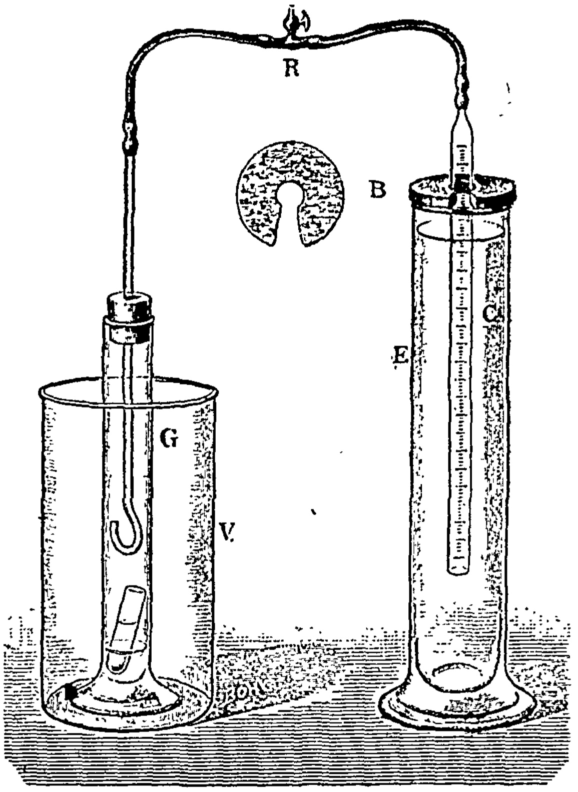
Improved Culture-Medium for Gonococcus. M. Sée.—Tubes of gelose are melted and cooled to 40 C. Half the volume of blood—drawn directly from the artery of a rabbit—is added to the gelose, and the tubes cooled slanting. The gonococcus develops on this medium more rapidly and luxuriantly than on any other. Characteristic colonies are evident in the first twenty-four hours, and retain their vitality for several weeks if not allowed to dry out. Bezançon and Griffon, who first described this method, have reinoculated cultures six months old.

Alloxuric Origin of Eczema. P. Tommasoli.—Hematopathology has discovered one constant element in every manifestation of eczema under all circumstances and in the most diverse subjects. This connecting link is uricemia. The alloxuric bodies—and uric acid in particular—are the cause of the affection, but they are not the only factors. Uric acid produces the disease, eczema; the other causes determine the variety. A communication from P. Gaston in the same issue summarizes the conclusions of seven years' study of the etiology of eczema as follows: Eczema has no existence as an entity, as a type of a skin disease. It is the expression of a disturbance in the nutrition of the papillary layer. The disturbance may be of parasitic or toxic, of external or internal origin, but the characteristic features, clinically and anatomically, are the signs of eczematization.

Chloric Acne. G. Thibierge.—Employees in electrical works are liable to an extensive acne induced by nascent chlorin. It especially affects those predisposed to acneic disturbances, although extreme cleanliness and cold weather may postpone its appearance. It does not differ clinically or anatomically from ordinary acne.

Bulletin de la Soc. de Pharmacie de Bordeaux, June.

Simplified Nitrogen Apparatus. G. Denigès.—Most of the apparatuses used to estimate the total amount of nitrogen in the urine are cumbersome, fragile and expensive. Denigès has modified his ureometer and claims that it is now possible to estimate with it both the urea and the total amount of nitrogen in the organic matters and fluids as accurately as with the most complicated instruments. It can also be used for the volumetric analysis of other gases, with manganese and lead carbonates, peroxids, hypochlorites, etc., merely adding some fluid to E less dense than water, that does not affect the carbon dioxid. The connecting rubber tube has an ebonized stopcock which allows communication between G and C and also the exterior, enabling the fluid in C to be brought to zero before the chemical action commences. The cork disc with the keyhole opening, B, used as a cover for E, acts as a spring to hold reservoir C. The opening in the disc is spread slightly apart with the left thumb and forefinger, thus allowing the reservoir C to be moved up or down as desired, while it holds the reservoir firmly when released. The detailed description of the original ureometer was published in the *Jour. de Méd. de Bordeaux*, of July 6, 1884.



Bulletin de l'Academie de Medecine (Paris), July 31.

Antitoxin of Pellagra. V. Babés.—It has been established that decaying corn contains a toxic substance which produces pellagra in certain localities, among the predisposed. Babés has further proved that an antitoxic substance is formed in the blood of persons, during or after recovery from pellagra, which possesses the property of annulling the toxic action of an extract of decayed corn obtained for this experimental research from regions where the disease is endemic. No other serum tested possessed this specific antitoxic property.

Sensitiveness of the Heart and Vessels. G. Pagano.—The venous portion of the vascular system, including the right heart, is practically insensible, while the arterial portion is extremely sensitive. The test excitation was made with prussic acid injected directly into the vessels and each half of the heart, the immediate effects alone being noted, to exclude the possibility of toxic action. The arterial tension was immediately increased to a marked extent when the substance was injected into the femoral artery, for instance. This reaction did not occur after removal of the abdominal sympathetic, thus demonstrating its nervous character. Pagano concludes from his research that the property of inducing at a distance actions modifying the statics and dynamics of the circulation is limited to the left section of the circulatory system, while the right—although it may respond to them—is incapable of generating them. He considers this sensibility of a sympathetic nature and that it is not the attribute of the capillaries alone, but also of the arterial trunks. This indirect or remote action may affect the entire organism or only certain regions. The sensory terminations—if this conception is correct—are nerve sentinels watching over the needs of the territory where they are stationed, ready to supply them before harm results.

Dourine, a Horse Disease. Buffard and Schneider.—These two young lieutenants in the French army in Algiers have succeeded in proving the etiologic identity of the dourine of Algiers with the "surra" of India and the "tsetse disease" of East Africa; they are all caused by a single trypanosoma, affecting horses and cattle. Dourine in horses is always propagated by mating and has never been known to affect a nonproductive animal. The symptoms are progressive anemia terminating in paraplegia, with fleeting circular patches on the skin, which remain flat, painless, non-fluctuating. The disease progresses insidiously to a fatal termination in four to ten months.

Journal des Sciences Med. de Lille, July 21.

Diabetic Myopia. Dujardin.—Two cases of diabetic myopia have been published recently and Dujardin has had occasion to observe a third. His case was a woman, 69 years old, with pronounced, chronic diabetes, who had used convex 4 D. glasses for reading. Her sight suddenly changed until she could read without glasses, while vision for distance was almost lost. The pupils resisted the mydriatic action of atropin, even a solution of 15 cg. in 10 gm. The idea of a spasm of the ciliary muscle seems more probable in this case than a physicochemical change in the lens as the explanation of the myopia. Paralysis of the muscle of accommodation might enable a hitherto latent hypermetropia to manifest itself. Horner has suggested that the presence of a large amount of sugar might result in the dehydration of the vitreous body, with consequent decrease in the size of the eye.

Nord Medical (Lille), August 1.

Pseudo-Coxalgia of Hernial Origin. Phocas.—When a child has a hernia, if dubious signs of coxalgia appear, the possibility of pseudo-coxalgia of hernial origin must be borne in mind and treatment commenced by curing the hernia. The child may limp and complain of pain in the hip-joint, but there is no atrophy of the member, and the muscular contraction is intermittent and subsides during repose. The movements of the joint are free except extreme abduction or flexion. There is no pain in the hip-joint on pressure at the classic points, and, finally, there is always hernia, although possibly unsuspected. The hernia becomes painful and produces an actual neuralgia of the cord. This neuralgia induces intermittent contraction and limping by reflex action. Phocas cites several instances in which a supposed coxalgia vanished completely after radical treatment of a slight and previously unnoticed hernia.

Presse Medicale (Paris), August 3.

Structure and Physiology of the Tonsils. M. Labbé.—Among the points emphasized in this communication are the important part played by the tonsils in hematopoiesis. The lymphocytes are transformed in them into mononuclear leucocytes with incessant karyokinesis. The antitoxic substances, oxidants and ferments secreted by the white corpuscles may possibly participate in the transformation of starchy matters in the mouth. The follicles of the tonsils by the extension of the epithelial surface are also a means of defense against microbian invasion.

Revue Hebd. de Laryngologie (Bordeaux), July 21.

Rapid and Effective Treatment of Fungous Otitis. A. Bonain.—"I cleanse, render antiseptic and anesthetize with cocained menthophenol. Then I remove with the loop or curette all the fungous growths and cauterize the raw surfaces left with zinc chlorid, pure or in a strong solution. After this I apply a gauze wick dressing and renew it every second or third day until all discharge has ceased." Bonain thus described his method, with which he has treated twenty-five cases of fungous otitis of the middle ear, among them one peculiarly chronic, rebellious case, cured in six days. Twenty days has been the average time required, with a maximum of forty-five in one complicated case. All but three have been cured or are still under treatment. These three have probably a lesion in the mastoid, but refuse operation.

Centralbatt f. Chirurgie (Leipsic), August 4 and 11.

Primary Carcinoma of Male Urethra. P. Rupprecht.—At the autopsy of a patient who had been operated on for primary carcinoma of the urethra nearly five years before, metastatic nodules were found in the lungs, and a carcinoma the size of a child's fist in the prostate, with involvement of numerous retroperitoneal lymph-glands. There had been no local recurrence and the patient had been in satisfactory health for four and one-half years, although requiring catheterization before and after intervention. He was 73 years of age at time of death.

August 11.

Necessity of Inflammation for Healing of Wounds. G. Meyer.—Modern methods of treating wounds neglect one of the most important factors in healing, *i.e.*, the natural reactionary processes of inflammation. We have learned that most of the benefits of antiseptic dressings are due to the slight inflammation they induce, and we know that absolute asepsis is unattainable. Meyer, therefore, claims that wounds should be rendered as aseptic as possible and then the preliminary stage of aseptic inflammation induced, to collect blood and leucocytes at the spot, so that the few invading germs that remain may meet their masters at once, even in the depth of the blood-clots, instead of finding conditions favorable for a culture-medium. He accomplishes this with tincture of iodin on aseptic, and aluminium acetate on infected, wounds. He considers treatment without inflammation absolutely dangerous in case of suppurating lesions on elderly or feeble persons. Thick dressings, holding the heat, to supplement the action of the aluminium acetate, attract the leucocytes and have proved very successful in his experience in such cases.

Advantages of Resection of the Pylorus. L. Rydygier.—Resection of the pylorus in appropriate cases, and not gastroenterostomy, is the operation of the future, according to Rydygier. He cites the history of one of his patients as a conclusive argument in favor of the former. She was operated on for ulcus pylori slightly encroaching on the pancreas, requiring resection of a portion of this organ with the pylorus. The operation was performed nineteen years ago, and she has since borne five children, the oldest now 17. She has done her own housework all these years and had only coarse fare to eat.

Dermatologische Zeitschrift (Berlin), August.

Pemphigus of the Conjunctiva. J. V. Michel.—This study of six personal cases of pemphigus of the conjunctiva concludes with the statement that systematic investigation of the mucous membranes and skin will usually disclose indications of pemphigus in all cases of adhesion of the conjunctiva not to be attributed to any evident cause, such as the action of caustics, trachoma or diphtheria. Pemphigus of the conjunctiva may appear at first in one eye, and become bilateral later. The prognosis is almost invariably bad. The process continues a progressive course as in other localizations. Boricized vaselin with cocain, or a plastic operation may be indicated. The success of the operation is usually annulled by the continuation of the pemphigus process.

Radiotherapy of Epitheliomata. V. Bie.—Sixteen cases of cutaneous epitheliomata have been treated with the chemical rays at Finsen's Institute, and seven have been completely cured. Another was cured, but has had a recurrence since. Five were improved, but not cured, and in three instances the treatment failed to produce results of any kind. One of the cases cured has been under observation for two and one-half years without recurrence, the rest from six to eleven months. Five cases had been ineffectually treated with vigorous measures before commencing the radiotherapy. Success is only possible when the epithelioma is superficial and accessible.

Transmissibility of Late Syphilis. O. Lassar.—A patient had acquired syphilis seventeen y [illegible] iously and had been thoroughly and apparently su [illegible] eat [illegible] married recently a healthy man who [illegible] She bore him a child in a normal [illegible] at three weeks presented all the symptoms of hereditary syphilis of the new-born. Another patient, infected seven years previously, was being treated for an ulcerating, gummatous lesion on the leg, when her healthy, six-months' infant presented unmistakable primary sclerosis of the labium majus.

Present Status of Radiotherapy. A. Loewald.—The writer reviews the reports published by Finsen and others in regard to the effects of treatment of cutaneous affections with the concentrated chemical or Roentgen rays, and concludes that they do not surpass those obtained with other methods. Their only superiority is the better cosmetic results, but with most patients the cosmetic benefits are out-balanced by the length and expense of radiotherapy. That the Roentgen rays have a peculiar and special effect on certain morbid conditions of the skin has been demonstrated beyond question.

Deutsche Medicinische Wochenschrift (Leipsic), August 2.

Diabetes Proved a Carbohydraturia. Rosin and Alfthan.—Baumann discovered that benzoyl chlorid combined with the carbohydrates—after decomposition with sodium hydrate—to form benzoyl compounds of the carbohydrates. It is possible to obtain by this means the total carbohydrates of the urine in the form of benzoyl esters. Rosin has been applying this fact to the quantitative estimation of the total carbohydrates in diabetic urine in comparison with normal, first expelling the monosaccharids by fermentation at 37 C. The research was conducted at Senator's clinic and many interesting results are hinted at, but this preliminary communication only announces that the benzoyl esters were found five to thirty times more abundant in diabetic than in normal urine. There does not seem to be any direct proportion between the amount of sugar and of the other carbohydrates. The results of the research seem to indicate that in diabetes not only the sugar, but all the other carbohydrates are increased in the urine, whether derived from the carbohydrates of the food or of the body or from the albumin of the food or organs. Alfthan concludes from special study of these benzoyl esters that the carbohydrates forming them are an intermediate product in the series of oxidations of the carbohydrate portion of the albumin molecule, and more particularly, of the organic glycogen, between the polysaccharids and grape sugar. He agrees with Rosin that this new research suggests that diabetes mellitus or insipidus is not merely a glycosuria, but an organic carbohydrate disease.

Future of Forensic Medicine. G. Puppe.—The writer of this article is superintendent of the "Investigation Prison" at Berlin, and his remarks are only intended for Prussia. He takes a gloomy view of the prospects of forensic medicine. In order to improve existing conditions he advocates that each medical graduate should pass an examination in this branch of medicine, after a special course which should include the legal questions involving the responsibility and rights of medical experts in criminal trials. The material for such courses should be derived from autopsies, which should be obligatory in every case of sudden death in which it is impossible to determine with certainty the cause of death, and in case of suspicious circumstances, even if no criminal proceedings are in view; also of suicides, of persons dying from cholera, plague, etc., of all unmarried women dying in the puerperium, and of all illegitimate children dying before the school-attending age. Further material would be afforded by examination of living subjects, claimants for damages, etc., and of blood-stained articles. The course would require a special institute.

A "Cured" Case of Diabetes Mellitus. Zaudy.—A man, 50 years old, was treated at Ebstein's clinic for pronounced, chronic and rebellious diabetes mellitus. The measures used were appropriate diet and four doses of salol on successive days. The sugar was reduced from 274.2 gm. to 50 gm. in 4570 c.c. urine in a month, and to merely traces by the end of the second month. There has been no recurrence during the year since.

Metatraumatic Alimentary Glycosuria. M. Haedke.—Twenty-five persons under treatment for severe traumatism with concussion, such as a fall from a height or serious injury to the skull, were tested with 100 gm. sugar to induce alimentary glycosuria the day after the trauma. Fifteen reacted positively, including two women.

Value of the Saccharometers in Vogue. A. Spaethe.—Comparative tables of the results attained with various tests and saccharometers demonstrate the superiority of Lohnstein's over Einhorn's and Fiebig's and the polarization test.

Milk and Salt in Severe Hemoptysis. E. Aronsohn.—Rectal injections of milk have been successful in arresting severe hemorrhage from the lungs, rebellious to all other measures, in several instances in the writer's experience. Eating salt has also proved useful in certain cases. One of his patients was attacked with recurring hemorrhage on the street, which was arrested at once by some salt obtained at the nearest house. It does not induce vomiting, but probably acts as an internal revulsive by the hyperemia it causes in the alimentary canal.

Variable Capacity of Morphin Syringes. H. Singer.—Twenty-nine morphin syringes were tested by Singer to determine their actual capacity and all were found to contain either more or less than the standard 1 c.c. Twelve were new from the factory and another dozen were borrowed from colleagues. The capacity varied from .865 gm. to 1.39, averaging 1.178. He suggests that syringes for subcutaneous injections should be officially inspected, as there is exceptional need for precision in substances thus injected into the system.

Wiener Klinische Rundschau, July 25 and August 5.

Treatment of Navel Infection. T. Escherich.—The importance of the umbilicus as a portal of entry for septic affections or as a local infectious focus is seldom fully realized. In 107 cases studied at Graz from this point of view, the evil consequences of a long, infected cord are conclusively demonstrated in tabulated statistics. They have convinced Escherich of the necessity of cutting the cord 3 cm. from the body as a routine measure. He uses the thermocautery for the purpose and then applies the band invented by Flick, which has a couple of tapes around the trunk and another around the back of the neck. The navel is inspected with ease as often as desired, without moving the child, by merely loosening the two tapes around the trunk and turning the bandage up. He applies dermatol or salicyl-talcum powder in most cases, but in gonorrheal affections has found aluminium acetate most effective, cauterizing with silver nitrate. In case of suspected tetanus the surface of the umbilical wound is scraped and a mouse inoculated with the scrapings. The tetanus was experimentally demonstrated in this way within twenty-four hours in several instances.

August 5.

Exclusive Milk Diet in Diabetes. A. Berger.—Five patients were fed exclusively with milk and kept in bed, two others were reliable out-patients, also restricted to an exclusive milk diet. The two cases of slight diabetes seemed to thrive on the milk and all sugar disappeared from their urine. The rest were chronic cases of diabetes and in each instance the amount of sugar in the urine materially increased under the influence of the milk.

Wiener Klinische Wochenschrift, July 19, 26 and August 2.

Post-Typhoid Suppuration of Thyroid Gland. A. Schudmak.—The writer explains the rarity of post-typhoid suppuration of the throid gland by assuming that some product of the gland usually renders the invading germs harmless. In a case he describes—about the thirteenth on record—the typhoid bacillus was found pure in the gland the ninth day after the first evidences of suppuration, the thirty-ninth after the first febrile symptoms. He states that the pyogenic property of the bacillus is not dependent on its virulence. He considers the leucopenia noted in abdominal typhoid the consequence of the localization of the disease in the principal leucocyte-forming apparatus and that it is not dependent on the virus of the bacillus. Whenever the latter locates at the periphery, leucocytosis is induced.

Iodin Intoxication the Cause of Basedow. R. Breuer.—In the course of a few weeks Breuer has had occasion to observe nine cases of "thyroidism," or of Basedow's disease, directly traceable to the administration of iodin. In some of the cases the symptoms were those of "constitutional iodism." The rest were secondary, and in one case primary Basedow's disease. The Geneva writers have also recently called attention to this same experience after administration of even small amounts of potassium iodid. The disturbance is probably due to the absorption of thyroid substance under the influence of the iodin, and the consequent flooding of the organism with it, which causes phenomena of intoxication—tachycardia, vasomotor disturbances, etc. These phenomena may be transient in some persons less susceptible than others, or they may become permanent by inducing constantly fresh congestion of the gland, thus forming a *circulus vitiosus*, which is manifested in chronic thyroidism, i. e., Basedow's disease. Goiter is extremely prevalent in Vienna. Breuer states that physicians residing there even for a few months have frequently noted that their necks became a little larger, requiring a larger sized collar. Possibly this local tendency may be an important factor in the frequency of the post-iodin thyroidism he has observed.

July 26.

Glycerin as a Vehicle for Antiseptics. O. V. Wunschheim.—The tests and experiences of the writer demonstrate that certain processes occur in 5 and 2.5 per cent. glycerin solutions of carbolic acid—either of a chemical or molecular character—which modify the acid in some way so that its disinfecting effect is completely lost. The addition of water restores this property. Diluting the 5 per cent. solution to make it a 2.5 per cent. glycerin-aqueous solution renders it as effective as the same solution without glycerin.

Artificial Interruption of Pregnancy. J. V. Braitenberg.—The particulars of twenty-two cases are tabulated in which delivery was induced for various reasons. One patient had applied for assistance in obtaining a living child, as her five previous children had died in the last month of pregnancy from no known cause. She was kept under careful supervision and when it was found that the fetal heart-beat and movements were becoming feebler, she was delivered artificially of a healthy child. This measure is recommended in case of habitual death of the fetus, as in this case.

Ferropyrin as a Hemostatic. E. Toff.—In sixty-five cases of gynecologic puerperal hemorrhage, the effect of ferropyrin in arresting the hemorrhage and favorably modifying the general symptoms was unmistakable in 90.7 per cent. of the cases. It is a mixture of ferrum chlorid and antipyrin, with none of the caustic properties of the former. It can be used freely on sensitive membranes.

Treatment of Necrotic Acne With Sea Salt. F. Luithlen.—Several cases of severe necrotic acne were treated by the writer with compresses impregnated with a solution of 1.2 per cent. solution of sea salt. This treatment was suggested by the improvement of a case during a course of sea bathing. The acne in each case had been treated ineffectually with the various remedies generally used, and the sea salt was a last resort. The effect was surprisingly favorable. The necrotic processes were arrested; the surface rapidly healed and there was no further loss of substance. In some of the cases salt baths were taken at the same time, but one was cured with the compresses alone. All were old, rebellious cases.

St. Petersburger Medicinische Wochenschrift, August 3.

Suffocation from Swallowing a Rubber Nipple. H. Lorentz.—A healthy 8-months' child was given a rubber nipple tied over a cork, which it sucked into the upper portion of the esophagus. It was tightly wedged and the entrance into the larynx was completely closed. Death occurred in fifteen minutes.

Influence of Frost on Peripheral Vessels. Zoege.—Rudintsky and the writer found in research on guinea-pigs that the more highly organized the tissue the more it is injured by frost. Cicatricial tissue takes its place and arteriosclerosis results when the process occurs in the vessels. The lesions occurring in the nerves at the same time are much less pronounced and less extensive than in the vessels under the influence of a freezing temperature, and it is evident that the vascular changes are not dependent on the nervous. Arteriosclerosis can thus be induced primarily without the participation of the nerves. This research also proved that exposure to cold, even months before, may entail disturbed nutrition in the part and consequent tardy gangrene.

Change of Address.

J. M. Brigham, Howell, to Kalamazoo, Mich.

J. W. P. Bates, 1830 Madison Ave., to 930 North Ave., Baltimore, Md.

E. W. Bayley, 718 5th St. S., Minneapolis, to Forest Lake, Minn.

Carl Booth, Carlow, to Barnes Medical College, St. Louis, Mo.

L. B. Boyer, 26 Hanover, to 69 Aldrich St., Battle Creek, Mich.

W. H. Borne, Norcross, to Lyons, Ga.

Lee Jackson Chapman, 220 E. State St., to 1426 Wesley Ave., Columbus, Ohio.

G. B. Citron, West New Brighton, to 174 E. 108th St., New York City.

W. J. Coulter, Milverton, Ont., Canada, to 1720 LaGrange St., Toledo, Ohio.

D. Conboy, Bad Axe, Mich., to 496 Jackson Boul., Chicago.

W. H. Campbell, Livingston, to Kalispell, Mont.

E. N. Crockett, 348 Main St., to Cambridge Bldg., Portland, Ore.

F. S. Clinton, Red Fork, to Tulsa, I. T.

C. S. Curry, Clayton Ill., to Beatrice, Neb.

E. W. Davis, 119 to 325 N. Fayette St., Saginaw, W. S., Mich.

A C. Durkee, 578 W. Congress, to 762 W. Harrison St., Chicago.

D. W. Detwiler, 2400 Dearborn St., Chicago, to Moravia, Iowa.

W. J. Fairfield, 68 S. Meridian, to 1302 Meridian St., Anderson, Ind.

J. Gunn, 5127 Cornell Ave., to Mary Thompson Hospital, Adams and Paulina Sts., Chicago.

R. F. Godard, Hazlehurst, Ga., to Citra, Fla.

F. Herb, 524 to 528 Tower Ave., West Superior, Wis.

Guy Hinsdale, Kennebunkport, Me., to 3943 Chestnut St., Philadelphia, Pa.

C. A. Hamann, 282 Prospect, to 744 Prospect St., Cleveland, O.

W. P. T. Jones, 2232 Morgan, to 2231 Market St., St. Louis, Mo.

I. P. Lyon, Tarnesda, to 531 Franklin St., Buffalo, N. Y.

J. M. Lemons, Friendship, Tenn., to Hudson, Ark.

J. S. Lindley, Fort Yates, N. D., to Hoopa Valley, Cal.

L. A. Malone, 6 Stewart Pl., to 39 W. Ohio St., Indianapolis, Ind. apolis, Ind.

R. Mather, 376 Michigan Ave., to 483 Grand Boul., Detroit, Mich.

E. S. Miller, Baltimore, Md., to Pleasant Mount, Pa.

W. O. Nisbet, Waxhaw, to Charlotte, N. C.

Susanne Orton, Chicago, to Darlington, Wis.

A. S. Palvis, 528 Washington St., to 527 Oakland St., Kansas City, Kan.

R. C. S. Reed, 209 S. Olive St., to 3765 Vermont Ave., Los Angeles, Cal.

W. D. Saxon, 112 to 102 Wisconsin St., Milwaukee, Wis.

R. D. Scott, 682 Adams, to 3200 Wallace St., Chicago.

J. S. Shrader, Appleton, Wis., to Delano, Minn.

P. C. Sutphin, Greensburg, to Uno, Ky.

E. M. Toler, Merwin, Miss., to Woodland, La.

T. R. Thomas, Gomer, to Cahill Blk., Lima, Ohio.

W. S. Tomlin, 48 W. North St., to 608 N. Illinois St., Indian-

J. M. Wallace, Tallassee, Ala., to Webster, Fla.

M. E. Withrow, Stillwater, Minn., to Grantsburg, Wis.

W. B. Wells, Eldridge, Iowa, to Milton, Wis.

D. Y. Willbern, Baby Head, to Lillano, Tex.

J. H. Woods, Brookline, to Boulevard, Mass.

Queries and Minor Notes.

MEDICAL LAWS.

To the Editor:—Will you kindly tell me something of the laws regulating the practice of medicine in New Mexico; also to whom should I apply?

Yours truly, J. F. S.

Answer.—A diploma, properly verified, from a medical college in good standing, is required as a condition for license in New Mexico. A four-year course and satisfactory preliminary educational requirements are necessary for recognition of a medical college by the board. Applicants for license must furnish satisfactory references of moral character and professional standing. Nongraduates or those without satisfactory diploma must pass examination. No licenses are issued to non-residents and no foreign diplomas are recognized. The secretary of the State Board of Health is Dr. T. P. Martin, Taos, New Mexico.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant General's Office, Washington, D. C., August 8 to 14, 1900, inclusive:

George F. Adair, acting asst.-surgeon, now at Fort Sheridan, Ill., to report to the commanding officer of that post for duty with the 5th Infantry, under orders for foreign service.

W. Edson Apple, acting asst.-surgeon, leave of absence granted, on the expiration of which he will report at San Francisco, Cal., for duty with troops en route to China.

Orlando Ducher, major and surgeon, Vols., former orders amended so as to direct him, on expiring of h f absence to report by letter to the Surgeon-C

Harry C. Gemmill, acting asst. nomas.

Ky., to accompany the 2d Infantry, under orders for foreign service.

Guy C. M. Godfrey, captain and asst.-surgeon, U. S. A., from the Department of Western Cuba to San Francisco, Cal., to accompany troops en route to Manila, P. I., where he will report for assignment.

Lewis A. Griffith, lieutenant and asst.-surgeon, 42d Infantry, Vols., now in San Francisco, Cal., to report in person to the Surgeon-General for instructions.

J. Randolph Harmer, acting asst.-surgeon, from Washington, D. C., to Fort Fremont, S. C., for post duty.

Philip F. Harvey, major and surgeon, U. S. A., from the Presidio of San Francisco, Cal., to Nagasaki, Japan, to establish a base hospital at that place.

John Van R. Hoff, major and surgeon, U. S. A., to proceed without delay to Taku, China, and report in person to Major-General Adna R. Chaffee, U. S. Vols., for duty as chief surgeon on his staff.

Alvis B. Kennedy, acting asst.-surgeon, former orders directing him to proceed to San Francisco, Cal., to accompany troops on foreign service revoked.

Thomas J. Kirkpatrick, Jr., lieutenant and asst.-surgeon, U. S. A., member of a board at Washington Barracks, D. C., to examine candidates for appointment as second lieutenants in the army.

Edward E. Lamkin, acting asst.-surgeon, previous orders amended so as to direct him to proceed from Baltimore, Md., instead of from St. Louis, Mo., to the Department of California.

Henry E. Menage, acting asst.-surgeon, now at New Orleans, La., to proceed to Denver, Colo., for assignment to duty at Fort Logan, Colo.

Edward L. Munson, captain and asst.-surgeon, U. S. A., member of a board at Washington Barracks, D. C., to examine candidates for appointment as second lieutenants in the army.

Arthur B. Smith, acting asst.-surgeon, from San Francisco, Cal., to the U. S. General Hospital, Fort Bayard, N. M., for temporary duty.

Bat Smith, acting asst.-surgeon, now at Fort Sheridan, Ill., to proceed to Wharton, Tex., for annulment of contract.

Albert E. Gruby, lieutenant and asst.-surgeon, U. S. A., relieved from the Department of Western Cuba and from further duty with the 1st Infantry: on expiration of present leave of absence to report at San Francisco, Cal., for duty with troops going on foreign service.

Benjamin B. Warriner, acting asst.-surgeon, from Fort Tremont, S. C., to San Francisco, Cal., for duty with troops going on foreign service.

The following acting asst.-surgeons to proceed from the places designated to San Francisco, Cal., for assignment to duty with troops destined for foreign service: Howard H. Bailey, Washington, D. C.; Louis Brechemin, Jr., Phildelphia, Pa.; William C. Mabry, Cleveland, Ohio; Clemen W. McMillan, St. Louis, Mo.; Robert E. Noble, New York City, N. Y.; Lorin B. Ohlinger, Alleghany, Pa.; Joseph A. O'Neill, New York City, N. Y.; Luke B. Peck, Brookline, Mass.; John A. Rafter, West Winfield, N. Y.; William Roberts, Washington, D. C.; J. Ralph Shook, Greencastle, Pa.; Charles A. Sturtevant, West Somerville, Mass.; Henry J. Watson, Ottumwa, Iowa; George Wilklow, Ellenville, N. Y.

Navy Changes.

Changes in the Medical Corps of the U. S. Navy for the week ending August 18, 1900.

Asst.-Surgeon M. K. Elmer, commissioned asst.-surgeon from July 18, 1900.

Surgeon C. H. T. Lowndes, commissioned surgeon from June 7, 1900.

Asst.-Surgeon W. M. Garton, detached from the *New York* and ordered to the *Massachusetts* immediately, temporarily, by the commander-in-chief of the North Atlantic Station.

P. A. Surgeons C. D. Costigan, G. A. Lung, J. T. Kennedy, ordered to the *Monocacy* for additional duty with regiment of marines.

Asst.-Surgeon E. Davis, ordered to the *Yorktown*.

P. A. Surgeon A. R. Alfred, ordered to the *Castine*.

Marine-Hospital Changes.

Official list of changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ending August 16, 1900.

Surgeon J. H. White, to proceed to Jacksonville, Fla., as inspector; thence to proceed to Camp Perry, Fla., as inspector.

Asst.-Surgeon H. A. Stansfield, detailed by Chief Quarantine of the Philippine Islands as quarantine officer at Iloilo, P. I.: confirmed by Department approval August 15.

Asst.-Surgeon F. J. Thornbury, granted leave of absence for three days.

Asst.-Surgeon H. A. Stansfield, detailed by Chief Quarantine Officer of the Philippine Islands as quarantine officer at Cebu, P. I.; confirmed by Department approval August 15.

Acting Asst.-Surgeon F. C. McIsaac, granted leave of absence for fourteen days from August 3.

Hospital Steward B. E. Holsendorf, letter of July 20, 1900, granting Hospital Steward Holsendorf leave of absence for 30 days amended so that said leave shall be for 15 days only.

Hospital Steward C. A. Warhanik, relieved from duty at New York, N. Y. (Stapleton), and directed to proceed to Vineyard Haven, Mass., and report to medical officer in command for duty and assignment to quarters.

THE JOURNAL OF THE
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Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to members of the medical profession. We shall be glad to know the name of the sender in every instance.

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The Journal of the American Medical Association

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Original Articles.

SERUMTHERAPY IN CROUPOUS PNEUMONIA.*

J. C. WILSON, M.D.

Professor of the Practice of Medicine and of Clinical Medicine in the Jefferson Medical College.

PHILADELPHIA.

It is a matter of history that the diplococcus discovered in human saliva by Sternberg in 1880 and shown to produce in rabbits fatal septicemia, was found by Fraenkel a few years later to be almost constant in the rusty sputum of patients suffering from croupous pneumonia and in certain associated lesions. The confirmation of these observations by Weichselbaum led to the designation of this micro-organism as the "pneumococcus of Fraenkel and Weichselbaum." The rapidly following studies of Zaufal, Netter, Weichselbaum and others established the fact that the organism in question is present in the lesion of croupous pneumonia, the accompanying pleurisy, and in such intercurrent conditions as endocarditis, arthritis, middle-ear inflammations, parotitis, meningitis, pericarditis and others and in some cases of bronchopneumonia, orchitis, conjunctivitis and other inflammatory affections not necessarily associated with croupous pneumonia. It is, however, most commonly and closely identified with the last named disease.

The inoculation experiments of Netter in rabbits demonstrated the presence of the pneumococcus in the saliva of 20 per cent. of persons who had not had pneumonia, and in 82 per cent. of persons suffering from pneumonia. In the saliva of from 60 to 89 per cent. of persons who had passed through one attack of pneumonia, the pneumococci were shown to be virulent for varying periods extending over months and years—a fact which explains the common liability to subsequent attacks.

McFarland and Lincoln, who have recently written upon the subject, regard the evidence at this time as warranting the assertion "that about 75 per cent. of the cases of true croupous pneumonia are caused by the pneumococcus alone, about 15 per cent. by that organism in combination with the influenza bacillus, streptococcus, staphylococcus, colon bacillus, etc., and the remaining 10 per cent.—a very liberal allowance—by various bacteria other than the pneumococcus."

Netter found that in fatal cases the pneumococcus can be grown in cultures from the blood in the cavities of the heart. Kohn demonstrated it in 21.8 per cent. of a series of cases in the blood drawn from the veins of the arm, in patients suffering from croupous pneumonia, and concluded from an analysis of the cases that its presence in the blood adds greatly to the gravity of the disease.

Inoculation experiments have established the fact that intravenous or intraperitoneal injection of the pneumococcus does not give rise to pneumonia but to a general septicemia frequently associated with purulent pleurisy or pericarditis; while in some few instances the lesions of croupous pneumonia have followed direct inoculation of the lung through the chest wall.

These facts viewed in connection with the familiar phenomena of croupous pneumonia warrant the assumption that the disease arises from direct infection of the lung via the air-passages, the extensive exudate developing in the vesicles and terminal bronchi, and being, to use the phrase of Lambert, "practically outside of the body so far as the tissues themselves are concerned." The exudate contains the pneumococci in rich culture, and as Welch showed, in their most virulent state. Into the surrounding blood-vessels and lymph-spaces are poured the toxins produced, apparently small in volume, as separable products, but of great intensity, as shown by the common severity of the symptoms. The pneumococci, however, tend also to enter the circulation and cause a septicemia—a general pneumococcus infection of the entire body. The clinical picture is made up of the symptoms caused, on the one hand, by the mechanical disturbances due to the exudate, and on the other by those due to the toxemia, and varies as these respectively predominate. The gravity of any given case may be due to a massive exudate or to intense toxemia; but the fact must not be overlooked that the more extensive the exudate the more abundant the toxins produced. The variable virulence of the pneumococci in different instances may be invoked in default of other explanation to account for cases of massive exudate with comparatively mild general symptoms or limited local lesions with intense constitutional disturbances. General bacterial invasion of the blood in certain cases adds a new set of phenomena to those already present and serves to explain the gravest symptoms, distant local infections, exudative and suppurative processes and in many instances the fatal issue.

The knowledge of the bacteriology and pathology of croupous pneumonia, thus gradually acquired, has at each point of advance made it a more tempting field of investigation for the student of serumtherapy.

The worker in the laboratory here finds problems of the greatest intricacy, the solution of which gives promise of results of the highest practical value. The clinician awaits with eagerness this solution and the practical application of the results. The state of the subject at the present time is encouraging as to the future of serumtherapy in pneumonia.

The limits of this communication forbid any extended review of theoretical considerations. Suffice it to say that the earlier invest[illegible] Kl[illegible] and those who immed[illegible] experiments filtered cultures, cultures sterilized by heat or by antiseptics, glycerin extracts, etc., and produced an antitoxic serum; while the more recent workers, Washburn, de Rienzi, Pane, Lambert, and McFarland, have produced a serum by immunizing animals to increasing doses of live virulent cultures, until, as in the case of McFarland, a tolerance on the part of the horse to 100 c.c. of a very virulent culture has been established. These sera are anti-infectious. Lambert states that "the action of all pneumococcus sera which have so far been developed is to act within the blood-vessels and prevent a general septicemia, having apparently but little influence on the exudate." McFarland, on the other hand, expresses the hope "that the serum will be of use in the therapeusis of croupous pneumonia, exerting its effect upon the bacteria engaged in the pneumococcic processes in the lung, and that its immediate effects will be the reduction of temperature, strengthening of the pulse, production of an early crisis, and above all the prevention of the frequent accidental metastatic inflammations so common in the disease."

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*Presented to the Section on Practice of Medicine, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

During the last four years a considerable number of cases of croupous pneumonia have been treated with antipneumococcus serum by different observers. On the whole the results are not discouraging, as regards the death-rate, the immediate effect on the symptoms or the course of the disease. De Rienzi reports a series of thirty-two cases with twenty-nine recoveries and three deaths. Numerous observers report improvement in the general condition and subjective sensations of the patients; lowering of the temperature and improvement in the pulse, without immediate crisis or shortening of the duration of the attack.

In February last Dr. McFarland placed at my disposal antipneumococcus serum prepared in his laboratory to be delivered fresh at such times and in such quantities as might be required for the treatment of cases of croupous pneumonia in the German Hospital in Philadelphia. The treatment has been carried out under my direction in a series of eighteen cases by Dr. Page, assistant physician to the hospital, and my residents, Drs. Moore and Uhle. I desire to express my thanks to these gentlemen for the interest and skill they have manifested in conducting the observations, and especially to Dr. McFarland for the opportunity of making them.

The extreme variations in the course of the attack and in the mortality of croupous pneumonia as modified by the age of the patient, his habits, previous health, antecedent disease and complications, render general statistics wholly unreliable in determining the efficacy of any plan of treatment. I therefore submit brief clinical histories of the cases, recognizing that the results can not be regarded as conclusive, but venturing to hope that as a contribution to the clinical study of serumtherapy they are not without value.

It is important to state that the serum was not used in these cases to the exclusion of other treatment. On the contrary, individual patients were treated in accordance with the usual plan in my service at the German Hospital, namely, by the systematic administration of Dover's powder; the application of ice bags to the affected region of the chest; the use of calomel, strychnia, alcohol, inhalations of oxygen when necessary, and such other symptomatic treatment as seemed judicious, in response to the indications in individual cases. The injections of serum were given in most instances directly after the patient's admission to the ward. In some few cases a delay of several hours arose in order that fresh serum might be obtained.

Case 1.—G. B., admitted Jan. 15, 1900, 23 years of age, single, male, Scotch, window-washer. Family history negative. Previous history: Scarlet fever in childhood; probably syphilis, alcohol in moderation.

The patient was admitted on the second day of the disease; his temperature was 103.4 F.; pulse 104; respiration 54. Onset sudden with chill and stabbing pain in right side of chest. Herpes on penis; crepitant râles and friction rub; tactile fremitus increased at right and left base. Pleurisy very marked. Signs of an effusion appeared on right side on the seventh day. Rusty sputum containing pneumococcus. Urine albuminous without casts, which disappeared before discharge.

Treatment.—Ice-bags to chest. Pulv. Doveri 0.3 every three hours. Serum started on fourth day of disease. Temperature 102.6 F.; respiration 36; pulse 104. Ten c. c. of serum was given hypodermically about every five hours. He received in all 19 doses, extending over a period of eight days. Temperature gradually lowered to 101 on the eighth day, then became septic and empyema was diagnosed. Transferred to surgical ward and operated upon.

Temperature not affected by serum but respiration and general condition improved after first few doses. Patient slept after nearly every dose. Blood counts were made before serum was given and daily afterward. It is interesting to note that *before serum was given the white blood-corpuscles numbered* 23,200. After three injections they were 42,400, and remained at this point for three days, when the serum was omitted for twenty-four hours, and the leucocytes dropped to 23,320. Upon resuming the serum the leucocytes again became 44,000. Patient discharged cured March 15.

Case 2.—F. C., admitted Feb. 19, 1900, aged 24 years, male, Italian, laborer. Family and previous history negative.

He was admitted on the sixth day of the disease. Temperature 101.2 F.; pulse 90; respiration 37. Herpes on lips; cough, painful in right chest. Dulness and tubular breathing over right upper lobe; crepitant râles at right lower lobes; impairment of resonance at left base. Heart—pulmonary second sound accentuated; no murmurs. Jaundiced on second day after admission.

Treatment—Ice-bags; pulv. Doveri 0.3; strychnia sulphate 0.002; whisky 15 c.c. every three hours. Serum treatment begun on eighth day. But two doses were given of 10 c.c. each. Temperature normal by crisis in twenty-four hours; no collapse. Uneventful recovery. Urine showed albumin and casts. No sputum or blood reports. Patient discharged March 7.

Case 3.—A. E., admitted March 4, 1900, aged 23 years, single, male, U.S.A., spinner. Family history negative. Previous history, smallpox.

He had been ill with grippe for three weeks. Three days before admission he had a chill and stabbing pain in right chest. Cough with rusty sputum. Tubular breathing; increased fremitus and flatness over base of right chest; a few fine râles; no friction rub. Sputum showed pneumococcus present. Urine showed albumin and casts; chlorids decreased. Blood examined on seventh day showed hemoglobin 55 per cent.; red blood-corpuscles 3,770,000; white, 12,500.

Treatment.—Ice-bags; pulv. Doveri 0.3; strychnia 0.002; whisky 15 c.c. every three hours. Serum begun on fifth day, evening. Temperature 101.6 F.; pulse 84; respiration 40. Six doses of serum, 10 to 15 c.c. each, about every six hours. Temperature normal in twelve hours. Treatment stopped. Temperature rose to 100 F. but returned to normal in two days without more serum. Recovered. Discharged March 19.

Case 4.—H. R., admitted March 4, 1900, aged 15 years, single, U.S.A., office boy. Family history: Mother, one brother and grandfather phthisical. Previous history negative.

Onset sudden with chill and stabbing pain in right chest. Cough with rusty sputum. Admitted fifth day. Temperature 101.2 F.; pulse 116; respiration 46. Base of both lungs dull posteriorly; dulness higher on left side. Increased fremitus; tubular breathing and râles over both bases; *no herpes.* Sputum showed pneumococcus present. Urine was albuminous; no casts; chlorids diminished. Blood examination, seventh day, hemoglobin 50 per cent.; red blood-corpuscles 4,250,000; white 8500.

Treatment.—Ice-bags; pulv. Doveri 0.3; whisky 15 c.c. every three hours. Serum began on sixth day. Six doses were given of 10 and 15 c.c. every five hours. Temperature 103.2 F.; respiration 38; pulse 104. Temperature normal on seventh day after five doses of serum were given. Recovered. Discharged March 18.

CASE 5.—W. H., admitted March 20, 1900, aged 39 years, male, married, U.S.A., salesman. Family history negative. Previous history: Tubercular testicle removed at German Hospital one year previous.

Present illness began suddenly with severe chill, great prostration, cough, rusty sputum, stabbing pain in left chest. Admitted second day. Temperature 103.6 F.; pulse 108; respiration 32. Tubular breathing over base of left lung posteriorly. Dulness increased. Fremitus, râles and marked friction rub. Urine contained albumin and casts; chlorids decreased .1 per cent. Sputum showed pneumococci; no tubercle bacilli. Blood showed hemoglobin 75 per cent.; red blood-corpuscles 4,290,000; white 16,000, third day.

Treatment was as usual. Serum begun at once, 9 doses of 20 c.c. each every three hours. Temperature 99 F. on sixth day. Serum stopped. Two days later patient became delirious, cyanotic and jaundiced. Right apex found solid and the seat of a well-marked pneumonia. Temperature 103.4 F.; respiration 52; pulse 120. Blood showed hemoglobin 71 per cent.; red blood-corpuscles 3,650,000; white, 20,000. Serum resumed as before, 14 doses of 20 c.c. each every three hours. Temperature normal in two days. Recovered. Discharged April 19.

Horse 628.—Bled Feb. 3, 1900, used March 20.

CASE 6.—J. VanD., admitted March 24, 1900, aged 28 years, male, single, Holland, laborer. Family and previous history negative.

Onset sudden with chill and stabbing pain in right chest; cough and rusty sputum. On admission, the second day of disease, temperature 104 F.; respiration 46; pulse 112. Entire right lung solid. Very delirious and cyanosed.

Treatment was as usual and oxygen every half hour. Serum not begun until third day. Three doses were given of 20 c.c. each every three hours. *No influence on temperature or symptoms.* Died in twenty-four hours.

Post-mortem confirms diagnosis. No other lesions found.

Horse 628.—Bled Feb. 3, 1900, used March 24.

CASE 7.—G. D., admitted March 27, 1900, aged 25 years, male, married, U.S.A., blacksmith. Family history negative. Previous history: Bronchitis three years previous; tobacco to excess; alcohol habitually in moderation.

Present Illness—Grippe for two weeks; recovery. Five days before admission had a chill and pain in left chest; cough, rusty sputum.

On admission, the sixth day of attack, the temperature was 102 F.; pulse 98; respiration 36. Great prostration; cough and pain; rusty sputum; herpes on lips. Dulness at base of left lung up to angle of scapula. Increased fremitus; tubular breathing; many râles and a friction rub. No friction rub heard in right lung over lower lobe. Sputum contained pneumococcus. Urine showed albumin and casts; chlorids normal. Blood—Eighth day, hemoglobin 75 per cent.; red blood-corpuscles 4,810,000; white 21,000.

Treatment was as usual. Serum begun on seventh day, five doses of 20 c.c. each, every three hours. On beginning, the temperature was 101 F.; pulse 88; respiration 32. The temperature became normal in twenty-two hours from beginning of serum treatment. Recovery. Discharged April 13.

Horse 628.—Bled Feb. 3, 1900; used March 27.

CASE 8.—W. B., admitted March 27, 1900, aged 42 years, female, single, Ireland, dressmaker. Family history—Sister died of phthisis. Previous history—Pleurisy seven years ago.

Present Condition—Grippe for two weeks before admission. Three days before admission suddenly taken with chill and pain in left chest, with cough.

On admission the temperature was 103 F.; pulse 120; respiration 40. There was cough with rusty sputum; pain in left chest; dyspnea; delirium; tenderness over gall-bladder; markedly cyanosed. Left lung expansion diminished; fremitus increased; dulness posteriorly over whole lung. Bronchial breathing; râles at end of expiration. Right lung edematous; numerous râles.

Blood examination showed hemoglobin 65 per cent.; red blood-corpuscles 3,890,000; white 8500. No urine report. Sputum contained pneumococcus.

Treatment was as usual. Serum begun on fifth day, six doses, 20 c.c. each, every three hours. All symptoms improved until the seventh day except pulse. Temperature suddenly went up to 105 F.; pulse 160; and death ensued on the third day after admission.

Horse 628.—Bled Feb. 3, 1900, used March 28.

CASE 9.—J. R., admitted April 4, 1900, aged 26 years, male, single, U.S.A., cigar-maker. Family history negative. Previous history—Enteric fever one year ago; tobacco and alcohol to excess.

Present illness began suddenly with chill and stabbing pain in right side; painful cough and dyspnea.

He was admitted on the *fifth day*. Temperature 103.4 F.; pulse 120; respiration 40. Herpes on lips; dyspnea; markedly cyanosed; delirious. Tubular breathing, flatness and increased fremitus over right lung except apex anteriorly. A few râles heard over both lungs. Friction rub over right lung. Blood count on eighth day of disease showed hemoglobin 75 per cent.; red blood-corpuscles 3,850,000; white 25,000. Sputum contained pneumococcus. Urine contained albumin; granular and hyaline casts.

Treatment was as usual. Serum begun at once on fifth day. Ten doses, of 20 c.c. each, every three hours. Temperature dropped to 100 F. in two days. All symptoms improved. Temperature ended by lysis, reaching normal on the fourteenth day. *Pleurisy continued, and signs of effusion at base of right lung* appeared on eleventh day and was absorbed before discharge. Recovery. Discharged April 25.

Horse 5597 G—Bled March 28, 1900; used April 4.

CASE 10.—J. F., admitted April 4, 1900, aged 30 years, male, Ireland, cigar-maker. Family and previous history negative. Alcohol at times to excess.

Present illness began suddenly with severe chill, pain in left side and dyspnea. Remained at home for two days without treatment, then walked to hospital. Admitted on third day. Cyanosed; herpes on lips; rusty sputum. Temperature 103.8 F.; respiration 42; pulse 128 and irregular. Lungs: Right lung, clear except for a few râles at base posteriorly. Left lung flat all over except at apex anteriorly. Pure tubular breathing and a few fine râles. Marked friction rub, heard best in axilla.

Urine showed albumin, hyaline and granular casts. Sputum contained pneumococcus. Blood count, fourth day, showed hemoglobin 75 per cent.; red blood-corpuscles, 3,730,000; white 28,000. Fifth day, hemoglobin 70 per cent.; red blood-corpuscles 3,780,000; white 20,000.

Treatment was as usual. Patient received serum, 20 c.c., every three hours and seemed to improve except that he was persistently cyanosed. After thirty-six hours, he became wildly delirious and died in that condition April 6 after a fit of screaming.

Horse 497 G—Bled March 28, 1900, used April 4.

CASE 11.—A. T., admitted April 19, 1900, aged 25 years, male, single, Jamaica, laborer. Family history negative. Previous history: Malaria several times; rheumatism twice. Syphilis. Alcohol in moderation.

Present illness began suddenly with fever and chill, stabbing pain in left chest, great prostration and dyspnea.

He was admitted on *fifth day*. Temperature 104F.; pulse 100; respiration 36. Intense dyspnea; no herpes; cough; rusty sputum; delirium; sharp pain over base of left lung. Left lung flat at base posteriorly up to angle of scapula; increased fremitus; fine crepitant râles at end of inspiration; tubular breathing.

Sputum showed pneumococcus present. Urine contained albumin, no casts. Blood, sixth day—hemoglobin 60 per cent., red blood-corpuscles 3,920,000, white 24,000.

Treatment was as usual. Serum begun at once, ten doses of 20 c.c. each every three hours. Temperature normal in thirty-six hours.

Patient developed an abscess in right thigh at seat of serum injections. Incised, drained; *healed rapidly*. Recovery. Discharged May 5.

Horse 736 B—Bled April 10, 1900, used April 17.

Case 12.—J. M., admitted April 21, 1900, aged 38 years; female, married, U. S. A., housework. Family history: One brother died of phthisis. Previous history negative.

Present trouble began two weeks before admission, with sore throat and other symptoms of influenza. Five days before admission she had a chill, with stabbing pain in left chest; cough. No rusty sputum or dyspnea.

On admission, sixth day, temperature 103.8F.; pulse 104; respiration 38. Cough, pain in left chest; purulent sputum, herpes on lips. Dulness anteriorly over right lung; increased fremitus and tubular breathing over upper lobe anteriorly and posteriorly. Râles over both lungs at upper lobes. Impaired resonance over upper lobe of left lung. Both bases clear.

Urine contained albumin, no casts. Blood, sixth day, before serum injections, hemoglobin 45 per cent., red blood-corpuscles 3,130,000, white 15,000. Three hours after first injection, hemoglobin 45 per cent., red blood-corpuscles 3,190,000, white 17,000.

Treatment was as usual. Three doses of serum, 20 c.c each, every three hours. Temperature normal in eighteen hours. Convalescence uneventful. Discharged May 2, recovered.

Horse 736 B—Bled April 10, used April 21.

Case 13.—J. W., admitted April 23, 1900, aged 19 years; female, colored, single, U. S. A., housework. Family and previous history negative. Present illness: Influenza one month previous. Recovered. Five days before admission taken sick again. Onset: vomiting and pain in right chest and abdomen. Two days later, chill, fever, cough, expectoration, sweating, pain in chest. On admission, third day, temperature 104.8F.; pulse 106; respiration 36; rusty sputum, intense dyspnea, restlessness. Dulness anteriorly and posteriorly over upper lobe of right lung, base clear; bronchial breathing; fremitus increased; râles over dull area.

Sputum showed pneumococcus present. Urine contained albumin; no casts. Blood fourth day, before serum injection, hemoglobin 55 per cent.; red blood-corpuscles 3,660,000; white 22,000.

Treatment as usual. Serum started on fourth day, 12 doses, 20 c.c. each, every three hours. When begun temperature was 105.4F.; pulse 120; respiration 40. Temperature normal in forty-eight hours. Recovery. Discharged May 10.

Horse 497 H—Bled April 6, used April 24.

Case 14.—R. B., admitted April 24, 1900, aged 19 years; male, single, U. S. A., laborer. Family and previous history negative. Present illness began sixteen days before admission with sudden onset, chill, headache, nosebleed, cough, bloody sputum, dyspnea and stabbing pain in right side. No herpes. Felt better the next day and went to work, but the following day all symptoms returned with greater severity and continued until admission. On admission temperature 102.6F.; pulse 116; respiration 34. Complains of pain on coughing and deep inspiration in upper abdomen; no expectoration; headache; dyspnea and malaise. Heart: Soft mitral systolic murmur; pulse irregular. Lungs: Right lung flat at base, extending laterally to mid-axillary line; impaired resonance at apex; vocal fremitus increased over apex anteriorly and posteriorly, absent over base posteriorly. Breath sounds absent over base posteriorly. Tubular breathing at angle of scapula. Fine râles heard. Left lung normal.

Sputum showed a few pneumococci. Urine contained albumin and casts. Blood three days after admission, before serum injection, hemoglobin 75 per cent.; red blood-corpuscles 4,030,000; white 4,400. Widal test negative.

Treatment was as usual. Serum begun the day after admission, three doses of 20 c.c. each, every three hours. Temperature normal in three days. Rapid lysis. Recovery. Discharged May 10.

Horse 497 H—Bled April 6, used April 26.

Case 15.—G. C., admitted April 25, 1900, aged 48 years, male, single, U. S. A., gardener. Family history negative. Previous history: Smallpox, enteric and scarlet fevers; alcohol and tobacco habitually.

Present illness began one week before admission with symptoms of grippe. Five days before admission had chill and stabbing pain in right chest; dyspnea; rusty sputum.

On admission temperature 102F.; pulse 112; respiration 36. Fifth day cyanosed with intense dyspnea; painful cough; rusty sputum. Heart: No murmurs; pulmonary second sound accentuated. Lungs: Consolidation of base of right lung; friction rub in axillary region. Sputum revealed pneumococcus. Urine contained albumin and casts. Blood: fifth day hemoglobin 50 per cent.; red blood-corpuscles 3,260,000; white 20,000.

Treatment was as usual. Serum begun on sixth day, three doses of 20 c.c. each every three hours. Temperature normal in nine hours. Recovery. Discharged May 9.

Horse 497 H—Bled April 6, used April 26.

Case 16.—C. W., admitted May 13, 1900, aged 34 years, male, single, U.S.A., show-man. Family and previous history not obtainable. Had been property man in Buffalo Bill's show for five years, during which time health had been good. Malt liquors in moderation. Weight about 200 pounds.

Present illness began eighteen hours before admission with a severe chill, pain in left chest and dyspnea.

On admission temperature 102.6 F.; pulse 120; respiration 50. Intense dyspnea; cough and rusty sputum; cyanosis. Pain in left chest. No herpes. Lower left lung solid; marked friction rub. Examination very difficult as any disturbance occasioned great cardiac distress. Urine showed albumin; no casts. Sputum had pneumococcus present. Blood: hemoglobin 76 per cent.; red corpuscles 4,390,000; white 15,000.

Treatment was as usual. Twenty doses of serum of 20 c.c. each, every three hours. Patient seemed to be improving but suddenly became very delirious, cyanosed and died very suddenly four days after admission.

Horse 497 T—Bled April 30, used May 13.

Case 17.—A. P., admitted May 2, 1900, aged 19 years, male, single, U. S. A., machinist. Family and previous history negative. Present illness began one week before admission with symptoms of grippe. Three days before admission was taken suddenly with chill; cough with rusty sputum and stabbing pain in left chest.

On admission temperature 105F.; pulse 124; respiration 50; delirious; very much cyanosed; no herpes. Heart: No murmurs; pulmonary second sound accentuated and metallic; pulse weak, quick and irregular. Left lung flat anteriorly and posteriorly all over. Tubular breathing everywhere except at base where for a few inches only harsh breathing and a few râles can be heard; fremitus increased; rusty sputum; no friction rub heard.

Treatment was as usual; 20 doses of serum given, 20 c.c each, every three hours. During the first twenty-four hours had to be stimulated nearly all the time. Right lung became very edematous and patient seemed to be dying. In forty hours the temperature reached 100F.; pulse 120; respiration 44. He seemed very much better and lungs began to clear. Temperature was slightly elevated for two weeks, probably on account of an abscess at site of serum injections, which was opened and drained, when temperature immediately became normal. Sputum revealed pneumococcus. Urine showed albumin and casts; at present only a trace of each. Blood: seventh day, hemoglobin 82 per cent.; red blood-corpuscles 3,430,000, white 37,000. Seventeenth day hemoglobin 60 per cent., red blood-corpuscles 2,890,000, white 21,000. Recovery. Discharged May 23.

Horse 736 B—Bled April 10, used May 3.

Case 18.—T. D., admitted May 11, 1900, aged 23 years, male, single, Wales, weaver. Family history negative. Previous history: Diphtheria and scarlet fever. Habits good.

Present illness began with sudden onset, chill, stabbing pain in right chest, cough, bloody expectoration.

On admission, fifth day, temperature 104F.; pulse 120; respiration 46; herpes on lips; rusty sputum. Lungs: Tactile fremitus increased. Tubular breathing and flatness over lower right lobe, posteriorly. Sputum had pneumococcus present. Blood: eighth day, hemoglobin 70 per cent.; red blood-corpuscles 4,150,000; white 11,000. Urine was albuminous, with casts; later, trace of albumin; no casts.

Treatment was as usual. Thirteen doses of serum, 20 c.c. each, every three hours. Temperature normal in forty-two hours. At that time the temperature was 99F.; pulse 92; *respiration 22. Recovery. Still in hospital.*

Horse 497 T—Bled April 30, used May 11.

Of the foregoing 18 cases 2 were women, 16 men. The youngest was 15 years of age, the oldest 48. The patients were all working people, most of whom had occupation up to the time of the attack. There were no tramps, coal-passers or sots among them.

Eleven of the patients were natives of the United States, one of Scotland, one of Wales, one of Holland, one of Jamaica, one of Ireland, and two of Italy.

One patient, Case 13, was a colored woman. The remainder were white.

In three instances there was a history of previous attacks of pneumonia.

One patient was admitted on the first day of the attack, 3 on the second, 2 on the third, 3 on the fourth, 4 on the fifth, 4 on the sixth, and in one instance the day of the attack was not ascertained.

The temperature upon admission varied from 101.2 to 105 F. The pulse frequency upon admission ranged from 90 to 128, and in 16 of the cases was 100 or higher.

Albuminuria was noted in 15 cases. In 9 of these cases casts of various kinds, usually hyaline, were also present, and in one, Case 14, blood was present in the urine.

Blood examinations were made in 15 cases, usually upon the day following admission; in some instances later than this. In 13 of the cases there was very marked leucocytosis. In two the leucocytes numbered 8500. In one of these, Case 4, the defervescence was complete twenty-seven hours after the first serum injection; in the other, Case 8, admitted on the fourth day of the attack, death took place on the seventh day. This patient, a woman aged 42 years, weighed over 200 pounds. The attack followed influenza.

There was a reduction of the red blood-corpuscles in all cases, usually moderate. The amount of hemoglobin was notably reduced in every instance, the least reduction being, in Case 16, to 76 per cent., and in Case 17 to 82 per cent.

Rusty sputum was present in 17 cases. In Case 12, admitted on the sixth day, the sputum was purulent.

The pneumococcus was reported to be present in the sputum of 15 cases. In Case 2, and in Case 6, no report was made, while in Case 12 it is distinctly stated that no pneumococci were found.

The summary of the dosage is interesting. In the earlier cases, it was given somewhat timidly, and at considerable intervals, the effect being closely watched. Later it was given freely and rapidly. In the first four cases the age of the serum, that is, the period that had elapsed from the time the serum was taken until its employment therapeutically, was not ascertained. In the subsequent cases it was known and recorded. The serum in all the cases was administered hypodermically. The total quantity varied from 20 c.c., in Case 2, to 460 c.c., in Case 5. Three cases received 400 c.c., or more. The administration extended over a period varying from six hours, in Case 6, to eight days, in Case 1. The age of the serum, as above stated, varied from seven to fifty-three days. The immediate effects were more favorable and more marked in recently-drawn serum than in that which had been drawn for longer periods. They consisted in general in lowering the temperature and pulse frequency, mitigation of pain and tendency to drowsiness. Several of the patients expressed themselves as feeling better after the injection and seemed to be anxious for the time when it should be repeated. There were no effects observed that could be ascribed to the trikresol present in the serum.

Of the 18 cases, 4 died, a mortality of 22.2 per cent. In two of the fatal cases, 6 and 10, no improvement followed the administration of the serum. In Cases 8 and 16, it is noted that slight improvement followed the earlier administrations of the serum, but that the later injections were without effect.

The defervesence was usually by crisis or rapid lysis. The duration of the attack varied from five to fourteen days, the majority of the cases coming to an end on the sixth, seventh or eighth day.

Of the 4 fatal cases, death occurred in 2 on the fourth day of the attack, in 1 on the fifth, and in 1 on the seventh. In three of these cases, 6, 10, and 16, the patients were alcoholic. In Case 8, no information concerning the previous habits of the patient could be obtained. In 6 of the cases that recovered there was a history of habitual excesses in alcohol.

The average duration of the stay in the hospital of 13 of the 14 cases that recovered, was 20½ days, one patient remaining in the ward at the time of the writing of the paper.

It is interesting to note that of 20 patients treated in my service in the men's medical ward at the Pennsylvania Hospital during the same period, on the same general plan, but without serum injections, 4 died, a mortality of 20 per cent. In this series, 8 of the patients, including the 4 fatal cases, were intemperate. No conclusions as to the effect of a plan of treatment can, however, be drawn from a limited series of cases.

DISCUSSION.

Dr. A. O. J. Kelly, Philadelphia—In connection with this important communication by Dr. Wilson I should like to report briefly for Dr. John H. Musser and myself, a single experience with the use of the antipneumococcic serum in the treatment of croupous pneumonia. A man, Charles D., 30 years of age, a native of Pennsylvania, and a lead-worker by occupation, was admitted to the Hospital of the University of Pennsylvania, to the service of Dr. Musser, March 9, 1900. He had been a hard worker all his life, constantly exposed to the inclemencies of the weather, and he had consumed alcohol to great excess. He had had at least two attacks of delirium tremens, and was reported to have been more or less under the influence of alcohol for a long time. On his admission to the hospital, it was ascertained that the patient had been complaining of cough and general malaise for two weeks. On Saturday evening, March 3, he went on one of his customary debauches, and continued drinking until the following Monday morning. On the evening of this day, March 5, he was taken with a severe chill, which lasted twenty minutes, but chilly sensations continued throughout the night. From this time until his admission to the hospital, he complained of pain in his right chest, cough, rusty expectoration, dyspnea, and fever. On admission to the hospital his temperature was 102.4 F., his pulse-rate 100, and his respirations 45. He was markedly cyanosed, revealed a blue line on his gums, and presented well-marked physical signs of consolidation of the right lung. There were also heard superficial to-and-fro friction sounds that were attributed to a concomitant pleuritis. The heart was negative with the exception of a systolic murmur at the base. Examination of the urine revealed a specific gravity of 1024. It was dark-amber in color, slightly turbid, and acid in reaction. It contained no sugar, nor indican; albumin was present in small amount; the chlorids were apparently normal. Microscopic examination revealed a few pus-corpuscles but no casts. Examination of the blood revealed hemoglobin 84 per cent., erythrocytes 4,300,000, and leucocytes 6770. The treatment instituted consisted of the local application of cold, the internal administration of carbonate of ammonium, whisky and strychnin, and a single hypodermic injection of morphin (1/32 grain). The following morning, with the exception that his respirations had increased to 56 per minute, the patient's condition had not changed. At 1 p. m., however, he became much worse, complained of extreme pain in the respirations had increased to 62 per minute. Physical examination of the chest revealed the signs of consolidation of the lower lobe of the left lung. Another hypodermic injection of morphin relieved the pain. Delirium, which was slight before, now became very marked, casts were detected in the urine, diplococci were found in large numbers in the sputum, and friction râles were heard over the pericardium. In view of the hopeless character of the case under ordinary circumstances, it was determined to try the effect of the antipneumococcic serum, which was very kindly placed at our disposal by Dr. Joseph McFarland. Injections of 20 c.c. each were given every three hours, commencing at 7 p. m., March 10. Only seven injections were given, because of the lack of serum. The leucocytes, which on admission had numbered 6770, just before the first injection numbered 17,360 per cubic millimeter. A half hour after each succeeding injection they numbered 16,420, 15,120, 19,420, 23,760, 24,520 and 29,400 respectively. At 6 p. m. March 11, they numbered 27,300, at midnight 28,200, and shortly before the patient's death, which occurred at 8 a. m. March 12, they numbered 33,400. The necropsy, which was performed by Dr. Flexner, revealed acute fibrinous pneumonia of the lower lobes of both lungs, extensive bilateral fibrinous pleurisy, chronic adhesive pleurisy of the right side, acute fibrinous pericarditis, acute splenic tumor, cloudy swelling of the liver and kidneys, slight atrophy of the cortex of the kidneys, moderate arteriosclerosis, and softening of the bronchial lymph-glands. I can not persuade myself that the serum was of any material value whatever in this case, but I admit that in view of the necropsy findings it is not likely that any treatment with which we are acquainted could have been of the slightest utility. The action of the serum, however, seems favorable rather than otherwise. The patient's general condition appeared to improve a little after each injection, but this may have been fanciful, as the pulse-rate and the respiration-rate gradually increased; the former reached 148, and the latter 72 per minute. Delirium also became active and ceased only a short time prior to death, when extreme exhaustion supervened. The serum, however, seemed to exert a marked influence in the production of leucocytosis. I am not unmindful of the fact that this may have been more apparent than real. It may possibly have resulted from the reaction of the body to the infection of the second lung, which became involved a short time prior to the commencement of the injections. But this is not likely. The treatment seems to merit further trial.

Dr. Delancy Rochester, of Buffalo—I rise to report a case in this connection of some interest because it bears upon the serum-therapy of pneumonia. About eight years ago, in the service of Dr. Charles Stockton, in the Buffalo General Hospital, there was a case of lobar pneumonia, and shortly after recovery another case entered the hospital. We were experimenting at that time and, with the permission of the patient, we blistered the convalescent patient and injected the serum thus obtained into the sick one. I do not remember the details of the case, but there was a decided improvement in the patient's condition for twenty-four hours. We were unable to obtain enough serum from the patient, but the evidence so far adduced in the use of the antipneumococcic serum points to the fact that we will yet have an agent of much value, when sufficiently concentrated, and when given in large enough doses. In the use of the antidiphtheric serum good results follow large doses, and I think the same thing will apply if larger doses of the antipneumococcic serum be used.

Dr. McFarland, Philadelphia—We found that small doses of the serum did but comparatively little good; it should be administered *ad libitum* until a large total amount of the serum is given. We are by no means certain as to the nature of the serum, and at present there is no accurate way of measuring its strength. The serum is prepared by administering living cultures of the pneumococcus to the horse. The pneumococcus is a difficult organism to cultivate, and its virulence is so quickly lost that one is never certain of the nature of the culture that he is administering to the horse. The best method by which the pneumococcus is kept virulent is by growing it alternately on artificial culture-media and in animals. The nature of the serum is uncertain. It may be antitoxic or antimicrobic, probably antimicrobic. While it is true that the serum of diphtheria and tetanus are specific for the respective diseases, there are proofs that the antipneumococcic serum is not specific for pneumonia but may be equally operative upon other microbic infections. I can cite for you an interesting observation made upon a horse which was immunized to the pneumococcus for four to six months, and one day received by mistake a large dose of the streptococcus culture. The dose should have killed it, but no ill effects followed. This leads me to believe that the serum is not specific for pneumonia alone. It is difficult to estimate the strength of the serum and it is natural to conclude that the number of theoretical observations made depend on the serums used and on their different strengths. The early observations on the pneumococcic serums are entirely useless. To administer 10 c.c. of serum from a convalescent patient is perfectly ridiculous; the patient is not getting any appreciable amount of the antitoxin. I have hesitated to use the intravenous method of injecting the serum, on account of the fact that the increased coagulability of the blood in pneumonia might lead to thrombosis. Later on we may find that this is the necessary mode of treatment. The serum should be fresh. Dr. William Park, of New York, urged that the serum should not be kept longer than six weeks, on account of losing its germicidal power. At the present time the whole subject is a very vague one, but the result of animal and culture observations indicates that the subject is one deserving much future investigation.

PSEUDO (?) OR MODIFIED (?) SMALLPOX.*

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The diversity of opinions in regard to the eruptive disease that has prevailed throughout the United States during 1899, has atracted much attention. My having had a personal experience with at least two hundred cases in one of the large counties of Tennessee (Gibson), and a nominal supervision of fully one hundred more as county health officer, has induced me to report this epidemic as briefly as possible. My sole object is to provoke a discussion, in which we should be deeply interested, as smallpox has been regarded with no favor by medical men.

SOME FEATURES OF VARIOLA VERA.

Before entering directly upon the phase of the subject presented in this paper, I desire to review briefly some of the chief characteristics of variola vera. It has been defined as an acute contagious and infectious disease, communicable at any time from the first rise in temperature to the final desquamation of the patient, and even after death, by the body itself in the dead-room, or by the effluvia of the corpse, when disentombed years after burial. It may be communicated by the urine or feces of affected patients, or by the small particles of the cuticle or scabs thrown off during the desquamative, or desiccative period. It has been rightly termed one of the most communicable of all the eruptive fevers.

According to Osler, one of our best authorities on the subject, "The contagium develops in the system of the smallpox patient, and is reproduced in the pustules. It exists in the secretions and excretions, and in the exhalations from the lungs and skin." . . . "Smallpox is one of the most virulent of contagious diseases, and persons exposed, if unprotected by vaccination, are almost invariably attacked. . . . There are instances on record of persons unsusceptible to the disease." He adds, further, that in the fearful epidemic in Montreal, in 1885, 86 per cent. of the deaths were of children under 10 years of age, when there died in that city, of smallpox, within nine months 3164 persons. He holds that the nature of the contagium of smallpox is still unknown, and that it is a little remarkable that in a disease which is rightly regarded as a type of all infectious maladies, the specific virus should still remain undetermined.

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Hartshorne, in "Reynold's System of Medicine," holds that the disease is communicable from the time of the initial fever till the last dry scale has disappeared; that in confluent smallpox the mortality is 50 per cent.; that in 2654 cases of the disease the mortality was 37 per cent., but that in this series of cases, the mortality in children under 5 years was 50 per cent., and from 40 to 60 years, 69 per cent., and from 70 to 90 years, 90 per cent.

Dr. Haygarth states that during his long attention to this subject, "Not a single instance had occurred to prove that persons liable to smallpox could associate in the same chamber with a patient with the disease without receiving the infection." "It is communicable in every way." "*A single breathing of the air is sufficient.*" "It is communicable from the moment of the initial fever." It has been caught in the dissecting-room from dead bodies that have been prepared for use on the table. I might thus continue to cite authorities showing the infectious and contagious nature of variola vera; its fatality—the death-rate varying from 25 to 45 per cent.—the fact that the disease is especially fatal when it prevails among negroes; that with all classes in the extremes of life—infancy and old age—the mortality is very great.

Other points upon which all authorities agree are: the date of the eruption—the third day from the initial headache, backache and fever—the fact that this eruptive stage lasts about three or four days, and that the eruption is first papular, then vesicular, then pustular; that in the vesicular stage the points of eruption become flattened, generally umbilicated, and slightly shriveled—this condition being followed by a state of euphory on the part of the patient; that on the eighth day of the eruption the contents of the vesicles become completely purulent, the eruption attains its greatest development and the vesicles become hemispherical and distended to their utmost, and the "suppurative, irritative or so-called secondary fever," begins, the temperature ranging from 102 to 105, or even higher; "that the mucous membrane of the mouth, fauces and larynx becomes most dangerously involved; that the vital forces of the patient are put to the severest test, and his life is placed in the greatest jeopardy"; that the cutis between the pustules becomes inflamed and the face, hands and feet swollen and disfigured far beyond that of the primary or eruptive stage; that pus begins to exude, and thick, yellow and dirty scabs and crusts form which, when removed, leave deep suppurating ulcers; that about the third day of the eruptive stage an intense itching sets in, and that this becomes almost unbearable in the suppurative stage when the crusts and scabs begin to loosen and fall off; that in the secondary fever we often have a muttering delirium; that it is frequently followed by deep-seated boils, and that most of the patients are left scarred and marked for life with pits at the sites of the points of eruption, especially on the neck, face and hands. These are points, as I have said, on which all authors agree.

THE EPIDEMIC AMONG NEGROES.

On June 1, 1899, I was called to Fruitland to see F., colored, aged about 35 years, supposed to have smallpox. I found the patient in one of the railroad section-houses sitting at a sewing-machine at work. I obtained the following history: In the latter part of April, or the first of May, a negro man came to the section-house from Mississippi, stopping in Jackson, Tenn., from one train to another, in a part of the city in which there had never been a case of smallpox. A few days after his arrival in Fruitland he became sick, went to bed in an adjoining house, and, "broke out," as the woman expressed it, "just as she was, but more so." She also told me he suffered before the eruption with headache, backache and fever; when the eruption appeared he was perfectly relieved from fever and pain, and in about two weeks was well and ready to go to work; that about the time he recovered, his wife became sick in the same way, only she was worse than he, and recovered in about the same time; that all of the colored inmates of the two section-houses freely mingled with these two cases, and that the white family, separated only by a fence, made no effort to maintain non-intercourse; that the head of the white family saw both of the sick negroes several times, and that the white children at the fence were frequently close to those who had just been in contact with the cases. None of the parties had ever been vaccinated; this fact I ascertained by an inspection of the arms. This woman stated that about four days before she was suffering with headache and backache, and called on her physician for something to relieve her; that finding some "bumps" on her face, he gave her some medicine and told her to keep in the house closely, as he suspected smallpox; that on the following day she was free from pain and fever, but that the bumps were still present, and that it was reported that she had smallpox; that she was not suffering at all, was, in fact, as well as she had been for months, and that there would have been no report or alarm had she not called for relief for her head and back, as her case was similar to the two reported, but much slighter. The eruption was found passing into the vesicular stage, with probably not more pain, and was at work, as has been stated. The disease was regarded as suspicious, and all the inmates of the section-house who could then be found were vaccinated, but the section laborers were away, and escaped vaccination at that time.

All were cautioned to remain on the premises, but were not quarantined or guarded. On June 21 I was again called to the section-house. I found a negro man about 30 years old with a confluent case of the eruption mentioned in the first case. He gave a history of headache, backache, fever, swollen face, hands and feet; eyes closed by the intensity of the inflammation; the papules discrete, but as numerous as possible; then, the vesicular stage, in which the blisters coalesced, forming large blebs, in many places larger than a silver dollar, with still larger ones on his hands and arms. Some of the blebs were fully 4x6. They appeared to involve only the most superficial layers of the cutis, and were unicellular. The patient did not claim to suffer at all, except from the natural soreness of the parts, blistered as they were. He had no fever, could have been up but for the condition of his feet, hands and buttocks. He was more comfortable lying down. He was then [illegible] seventh or eighth day of the eruption. A week [illegible] days later I saw him again. He met me at the [illegible] and claimed to be well. He had no secondary [illegible] i- any complications. To-day there is not a [illegible] so on his person, except some few stains [illegible] ed arms due to a deposit or accumulation of [illegible] on, terial in the skin. A few who were [illegible] had first visit had typical vaccin-sores. [illegible] hese caped the disease, the balance [illegible]

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after case occurred in the two section-houses, never more than two at a time, till all but one or two had the disease. The two last seen by me were an old man, fully 70 years old, and a child about 4 years old. The old man's case was a reproduction of the second one, already reported, whilst the child's case was very similar to the first one. The child had been successfully vaccinated by me on June 2, and developed the disease in August. The old man gave an undoubted history of a successful vaccination in childhood.

July 23 I was called to a negro family in another neighborhood. This family had contracted the disease from a negro man who had visited the cases in Fruitland. He considered the disease of no importance till he had fully developed the eruption in the vesicular stage. Two families or more had then been in close contact with him. The family which I visited consisted of a man, his wife and three or more children. The two of the three children had had the disease in a mild form, leaving only maculæ on the cutis. If the youngest child had developed the disease, it was so mild that they did not discover it. The mother had broken out slightly on the Wednesday preceding my visit, which was made on Sunday. She was at church that day, just the fourth day from the date of the eruption. The man was then in the eighth day of his eruption. The points were conoidal, not at all inflamed around the base, and were discrete. He said that aside from the eruption, he was well; there was no fever, no loss of appetite. He had suffered from nausea and a decided sore throat. None of these parties had ever been vaccinated. On a subsequent visit I saw two families. In one, where the hygienic surroundings were good, the house being large and roomy, all the cases, some seven in all, had been very mild. None of these had been vaccinated, and not more than two at a time had developed the disease. In the other house I found a family of nine. The disease had existed in that house for a month or more, it having been contracted from the party who visited Fruitland. In this house two cases at a time was the rule. There had been six cases at the date of my visit, including the one just entering the eruptive stage. In some of these cases the headache, backache and fever had been severe and the eruption abundant, but after the first case no physician had been called, the mother stating that as soon as she discovered that she had to deal with a case of "the eruption" she felt easy, knowing that there was no danger. The mother claimed that she would not have the disease, as she had been vaccinated, but before the last case recovered she and the old grandmother, who had also been vaccinated, had a mild attack. Later on, in the same neighborhood, I visited a negress about 35 years old, who was suffering from the confluent type of the eruption. She gave a clear history of vaccination in her childhood. There were four children in the family. All were vaccinated, though in one or two there was "no take," yet all had the disease in a very mild form, the successfully vaccinated one having a severer attack than the baby under one year of age. In this settlement there were about forty cases. None were very sick; none were in bed for a longer time than four days, except the confluent case, which was confined for one week. When the disease first developed in this neighborhood, the first case, one of the severe ones, was visited by a physician, who carried his son, aged 4 years —who had never been vaccinated—into the negro cabin with him, where both remained nearly a half hour; neither contracted the disease. The fullblooded negro, except in one instance, alone suffered. In the excepted family, the negroes were almost white, and their attacks were very slight. Later on I vaccinated five of these children, of which number one had escaped in a large family. In this one the vaccination was successful, though he failed to have the disease, being exposed to it for at least six weeks. In another neighborhood, among families known as the Johnson families, there were about 30 cases—all black negroes. Two of these cases were confluent, the others discrete, being milder in proportion to the decreasing age of the subject. In one of these families three children, nearly grown, who had been vaccinated in March, 1899, escaped the disease, but the mother, who had a good vaccin mark, had a mild attack, and a daughter, who had never been vaccinated, escaped with not more than a dozen papules and vesicles. About one month after the complete recovery of two children in this series of cases, I vaccinated them. The result in one case was a typical vaccin sore, and negative in the other. I have reported now as briefly as possible the epidemic among the negroes.

AN EPIDEMIC AMONG WHITE PEOPLE.

On October 21 I was notified of the appearance of a case of the disease in one of the best white families in Fruitland. The source of infection was traced through a negro child. Her case proved to be a very mild, discrete eruption. On the eighth day of the eruption, when I saw her, she said that she was well, except the conoidal vesicular eruption. She had no fever, and from that day on desiccation progressed rapidly, and when seen on November 1, all of the eruption had disappeared, except the red elevated nodular base of the vesicle. On my first visit an effort was made to vaccinate all the members of the family. Some were conveniently absent from home. On November 1, I visited the family a second time, and found two new cases, the son, who had never been vaccinated, and a daughter with a typical vaccin sore, both mild, but the son much the milder of the two. Two other cases appeared, one that had been successfully vaccinated, the other not. The son who had the disease was afterward successfully vaccinated.

October 22, 1899, I was called to see J. H. A passing physician eight days before had called when he was suffering from headache, backache and fever, and when the eruption was just beginning to become vesicular, and had diagnosed the case as measles. The family suspected a mistake, and kept the case quiet. The report having gone out that the case was measles, those neighbors who had had rubeola visited the family, so that six families were exposed from the time of the initial fever till the date of my visit, several persons having been in the house and in the room after the eruption had become vesicular. My visit was made on the ninth day of the eruption. The patient was free from fever and sitting up in bed, able to eat all he could get; he said that he was well except the soreness of his hands, feet and buttocks. The eruption on his face was flattening and desiccating rapidly; that on his body was conoidal in shape, and filled with an opaque lymph; there was no pus, no itching nor other complaint.

There were ten inmates in this house at the time of my visit, besides the patient. All of these were vaccinated and notified that they must stay where they were or go to a pest-house. All were adults except one—a child of about eight months—five males and five females. Only two had been previously vaccinated—one in the sixties, the other before the war. The latter had a typical mark, well pitted; the other had a glazed cicatrix on the site of the vaccin sore. Every family that had been at all exposed was vaccinated—a total of thirty. Two days later I returned to see the patient, and found him rapidly improving. Five or six days later I founl typical vaccin sores on seven of the inmates of the house, but the remaining three had "no takes." The patient was out of doors, all crusts or scales had dropped, and nothing remained of his disease except red, elevated points, which had been the bases of the original papular eruption. On November 31 two members of the family began to suffer with headache, backache and a rise in temperature, two others with slighter pains and the baby became fretful, with no assignable cause. On November 5 a papular eruption made its appearance on five of the inmates mentioned, changing rapidly to a vesicular one. On Tuesday I visited the family and found the baby with not more than fifty points of a conoidal eruption, the mother with probably twice as many—vaccination having failed completely on these two—a discrete eruption scant on the remaining three, but much severer on the two young men. The three had typical vaccin sores of a week's duration. The grandmother, who had been vaccinated before the war, and on whom vaccination had again taken well, suffered most from the localized pain in the bases of the eruptive points. Of the three who escaped, two had been successfully vaccinated, the other unsuccessfully. One of these quarantined persons had left the place, deeming it safe to return home, as his vaccin had proved a perfect success, but on the same day, November 4, the initial fever developed, and on November 6, the eruption came out severely; but as soon as it fully appeared, he got out of bed and claimed to be well. None of the other inmates were confined to bed at all, except about October 28, when one of the young men remained in bed about thirty-six hours with a sick-headache and a sore arm. When I visited them, November 7, all were up and free from fever. Bear in mind that all of these parties, ten in number, were exposed from October 13, the date of the beginning of the fever of invasion, till October 22, the date of my first visit; that on this date they were all vaccinated; that on the 28th or 29th six of them had typical sores, and that no eruption appeared on any of them till November 5 or 6, just fourteen days from the date of vaccination; and do not forget that the mildest cases were the mother and child, on whom the vaccination did not take. Not a case appeared in any of the six families exposed. In every family, save one, there were some failures in vaccination; in one of these cases in which vaccination failed, the child had been exposed to the case several times during the febrile and early eruptive stage. On November 1 a case in another white family was reported, and was at once visited by me. In this case no contact could be traced with a case of this disease—exactly as it was reported by the patient J. H.

This last case, Mr. C., gave a history of fever, headache and backache, followed by an eruption, beginning on October 28, the fever subsiding on the appearance of the eruption. This man had never been vaccinated. The eruption was smaller and more irregularly shaped than in any of the other cases, and on the face, especially the forehead, it was almost confluent. On the arms and lower limbs it was discrete and conoidal. The eruption had not fully passed the papular stage on the hands and feet, though the vesicles had assumed an opaque appearance on the face. The patient was out of bed, with a temperature less than 100 F., feeling well, and ready to eat anything and everything brought to him. Five members of this family were vaccinated, after many threats and much persuasion, and four had the disease.

These cases are reported in as brief a manner as possible, and sum up about eighty colored and eleven whites.

AN OUTBREAK IN ANOTHER PART OF THE COUNTY.

About November 15, a new point of infection was reported in the county, in an incorporated town. I was sent for; I reported to the authorities that the disease was what we had had in the southern part of the county; that the State Board of Health called the disease smallpox; that I didn't consider it variola vera, but in deference to the health authorities, advised isolation and vaccination without quarantine. The first cases were, as elsewhere, negroes. The families were vaccinated successfully, and kept in their own premises, but every one of them developed the disease.

The local authorities next discovered the disease in a white family that could not account for its presence. These were detained for about fourteen days at home, but refused vaccination, and one-third of the family developed the disease, the later cases being milder than the first. No further efforts were made to prevent the spread of the disease, and it was reported that nearly every negro in the town had the disease, and not less than twenty-five whites, making in all about 100 cases, with no deaths; though one old lady 76 years of age died from congestion of the lungs while suffering from a very mild eruption. The disease appeared in the only hotel in the place, all of the proprietor's family being attacked, but business was never suspended, the traveling public being received.

In a country district just east of this incorporated town the epidemic held undisturbed sway. I was never called in; nor were many vaccinated. They preferred the disease to vaccination, so they reported officially to me. Here, too, the disease ran its own course, gradually growing milder, killing no one. There were forty or fifty cases in that district.

In another town three colored families became infected. After the first case all were vaccinated, except the babies, but not one escaped the disease, the mildest cases being the unvaccinated babies. In one family two cases of a severe type developed twenty-one days after vaccination, followed by a typical vaccin sore. Here there were seventeen cases, with no deaths.

At another point, in a family of twelve negroes, there was only one case, and this was not discovered till the fourth day of the eruption, which, while discrete, was severe. The family had been constantly in contact with this patient, but during the day lived largely out of the house. The man went to his work on the fifth day, and so continued till he was turned loose. He is now spotted, but the maculæ are rapidly disappearing. Living in another house was a family of three men, one woman and a baby. One of these men contracted the disease from the same source as the last case reported. All were successfully vaccinated except the baby. All had the disease, the baby in a milder form than did any of the others. These cases were at the county seat, and had been mingling with other negroes till the appearance of the eruption, and yet no other cases developed. In another negro family with the disease, all unvaccinated except the father and mother, this disease was so mild that the children were sent home from a crowded schoolroom during the vesicular stage of the eruption, and returned before desiccation and desquamation had been completed. I personally inspec [illegible] cases; only one member of the famil and that for only one or two hours, when they thought she had a chill. The vaccinated mother finally had the disease as severely as any of the others.

The disease finally ceased in the county, without any special efforts to check it, save the isolation of the families. There were in all about 300 cases, the large majority of them being negroes. In those cases where the whites contracted the disease they appeared to suffer more than did the negro. The last cases in the county were negroes who had had the disease in their families for weeks before it was discovered. When at last found out they were transferred to a house of detention. There on April 26, 1900, I visited in person and closely examined them. One man, who had contracted the disease on April 10 or 12, was nearly well. His was reported to have been one of the most severe cases. It was claimed that he had secondary fever, but this was disproved fully. His face was thickly marked with dark, almost black, spots. The next case, a colored male, a syphilitic, was in the eighth day of the disease. The scales were already dropping off. His face presented a variegated appearance. His nose was almost double its natural size. Crusts were abundant, but no thick scabs, and no pus anywhere. His temperature and pulse were normal. This was a severe confluent case. When seen he was very busy disposing of a full breakfast of rice. Of the fourteen cases in the house, not one was in bed. The cases ranged from two days to two weeks in duration; the patients were from 1 to 50 years of age. They were about equally divided as to sex. With this number in a room just before it had been aired and swept there was not the least odor. The eruption varied in size from a grain of wheat to a large vesicle. The cases of the children were mild in proportion to their ages. All were hungry. Not one complained of anything except of being detained in the house. There was no itching. It has been my experience further, in two large families, where all the inmates had been unrestrictedly allowed to mingle with the one case of the disease up to the fourth day of the eruption, to have had no case except the first in either family. One family, with the exception of two or three members, was successfully vaccinated; the other unsuccessfully. One was white; the other colored. In another family the only two members who had contracted the disease had had variola vera in their younger days—one being well pitted. The epidemic has shown a decided preference for the colored race, and the history of these cases has shown that it is more easily communicated from one to another among negroes than among the whites; but this is easily accounted for by the difference in their hygienic surroundings.

CHARACTERS OF THE EPIDEMIC COMPARED WITH SMALLPOX.

The points of similarity in these cases and true smallpox have been brought out in the clinical histories. There is in some the same backache, headache and initial fever, papular eruption, followed by the vesicular, then becoming opaque, but in the large majority of cases having none of the appearance of pus. These vesicles have in many cases flattened, but lacked the peculiar umbilication, and when full of opalescent fluid were conoidal, not hemispherical, in shape. There was no puckering around the eyes. None of them ever had creamy pus in them, and in no case was there ever an ulcerated surface left upon the removal of a crust. The vesicles, no matter how confluent, went through a process of desiccation, not of suppuration—only the epidermis and a few superficial layers of the cutis being involved. There were no crusts, only thin scales. In not a single case was there any secondary fever, the highest temperature on or after the eighth day not reaching 100 degrees, though the family physician reported secondary fever on the sixth day before the eruption had fully matured; with a temperature of 100.3 degrees. In no case at the time the secondary fever should have developed was there any inflamed margin around any of the so-called pustules, nor even in the confluent cases was there any inflammation about the skin after the eighth day. The cutis between the sores on the body and the extremities was normal in appearance, and there was no inflammation about the face or hands after that date.

In every case with the appearance of the eruption the fever subsided, and the patient got out of bed, and so remained, except in a few confluent cases mentioned, where the patients were more comfortable in bed on account of the condition of the feet and hands. After the eruption appeared the appetite returned in all of the cases. In not more than 5 per cent. of the cases was there nausea or vomiting. Itching was absent in nearly all, especially was this so in those patients whose skin had been kept clean. In not more than a half dozen cases was there any pitting, and in these few cases the marks were due to the patient rubbing off the vesicles to hurry up the process of recovery, as they supposed. In the few marked cases, the skin is rapidly assuming a normal appearance. The cases are chiefly marked by maculæ, in the negro, caused by an undue deposit of black pigment in what had been the base of the papules; in the whites this pigment is reddish or purple. This gives to the face a spotted appearance, but, as in the case of the pits, the pigment is rapidly disappearing.

Vaccination has not seemed to exert any protective influence whatever, but as so few of the negroes have been vaccinated, it is difficult to draw any conclusions on this point, but I would especially call attention to the results of my experiments in vaccinating those who have had the disease. In one instance, when two were vaccinated there were a "take" and a failure, and in the second lot, where five were vaccinated, one, who had escaped the disease through a period of six weeks' contact with it, showed a typical sore, and another one a slight "take." Again, in parties who in childhood had been vaccinated, two of them had a confluent attack, and in at least two instances, children who had been vaccinated about one month previously contracted the disease. Lastly, where of ten vaccinated persons, with seven typical sores developing six days after vaccination, and where three of the same lot of cases entirely failed to "take," fourteen days after the vaccination and seven or eight days after the appearance of the vaccin sore only three had escaped the disease, one of these being one on whom vaccination had no effect, and the two mildest cases of the eruption being the baby and wife of the first case, the two having failed to show any vaccin sores at all. Again, two cases with vaccin sores twenty-one days old had severe attacks of the disease, and still again, of a family of ten persons, all of whom were vaccinated at the development of the first case, not one escaped the disease; and there was a duplication of this in another family. You answer that it has frequently been reported that parties who have had smallpox have been successfully vaccinated. "It is to be observed, however, that the smallpox has been experienced, in most cases many years before."[1] It is admitted by all that the more recent the vaccination, the more protective it is. Yet I found persons vaccinated a month and those vaccinated two weeks before the appearance of the disease equally affected. In my last series of cases, one that had a typical cicatrix, and was again vaccinated successfully, with the vaccin sore fully matured, conditions in which, according to Dr. Hare, protection is most easily afforded, had just as severe an attack as did any of the others in the house. The primary vaccination should have perfected it, yet the disease appeared, while one who had never been vaccinated, and on whom vaccination had failed in this group of cases, escaped.

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[1] N. Y. Record, July 5 and 26, 1879.

Smallpox is communicable in every stage of the disease, while this disease becomes communicable only in the late vesicular, opaque lymphoid or pustular stage. This fact has been demonstrated in every case with which I had to deal. I have already cited families exposed in my last cases. Is this disease that has been so widespread true variola, such as we have met with for years—a disease having a death-rate of from 25 to 50 per cent., while this has none?

I find in examining medical works of old as well as recent dates but little reference to any eruptive disease corresponding with this. In Good's Study, published in 1829, Mr. Marshall reports what is called Kandayan Epidemic. While several cases made a near approach to varicella, all of them so far deviated from the ordinary character of the variolous secretion as to be devoid of a creamy and consistent pus, and rarely exhibited more than a whey-like matter, whether the eruptions were distinct or confluent, or the fever mild or severe. In other respects, Mr. Marshall observes, "the disease did not materially differ from the description given of the smallpox by systematic writers." These were mostly cases that had been preceded by vaccination.

Van Swieten has described a spurious or bastard variola under the name of *Steen-pochen* (Stone-pox), which he claims to have seen as frequently epidemic as the genuine variola, indeed, running apace with the latter, and sometimes succeeding it.

Reynolds,[2] under the head of "Variola Benigna," refers to Van Swieten's description "of natural smallpox under the title of Variola Verrucosa, or Cornea, Stone-pock, horn-pock and wort-pock, which we sometimes see in these days, and in which the disease is of a mild, modified character." He says: "These are examples of a mild, natural smallpox, such as have occurred no doubt at all periods to a few favored individuals, and in which, fortunately for the subjects attacked, the disease leaves no trace behind."

CONCLUSION.

Can this disease be called variola vera? The initial fever, backache and headache are the same, but all eruptive diseases have the same train of symptoms to a greater or lesser degree. In a large per cent. of cases of variola in this stage we have nausea and vomiting, with an inflamed condition of the mucous membrane, whilst in this epidemic this state of affairs has been the rare exception. In variola the eruption is, as a rule, more regular in its development. In this I have seen cases as late as the sixth day with vesicles still appearing. In variola the eruption is, as a rule, in the pustular stage, hemispherical; in this, in the third stage, conoidal in almost every case. In smallpox the rule is that the patient begins to fight for his life on the eighth day, but in this he begins to recover. There is no suppurative stage, but a stage of desiccation, and when the scales are removed by force there are no ulcerated bases seen even in the confluent cases. This eruption has never in a single case been followed by boils or phlegmonous swellings, which are too common in smallpox. Smallpox is prevented by vaccination, this is not, nor even, so far as my experience and experiments go, modified, as I have seen milder cases in the same house among the unvaccinated than among those whose arms had a vaccin sore, 8 or 10, or even 21 days old. Smallpox, as a rule, stamps its indelible imprint on its victim; it is the exception to find one "pitted" with this disease, and when pitted at first, the skin rapidly becomes smooth. There is no mortality in this disease, but in smallpox about one-fourth of the cases die. In this disease there have been neither complications nor sequelæ, but in smallpox they are the rule. In the cases which I have seen, and they have been many, not a dose of medicine has been given. Nature has not been interfered with, and all have recovered, whether in the hovel, hut or comfortable house.

You ask what I call the disease—I answer frankly that I do not know.

DISCUSSION.

DR. J. J. WALSH, New York—It must be remembered that the great Vienna school of dermatologists have never admitted that there is an essential distinction between varicella and variola. Prof. Senator, of Berlin, said not long ago that while at first in his medical career he held with the Vienna school in this matter, later he came to disagree with them, and yet now goes back to his former opinion and thinks the two diseases have some very intimate connection. In Berlin, when an epidemic of varicella appears, Prof. Senator always looks for a true case of variola somewhere in the vicinity.

Dr. Happel's observations, so carefully made, are very valuable as showing, perhaps, an intermediate stage between varicella and true variola. In children-hospital practice it is possible to have with varicella, severe fever, 104 F., perhaps, and, after two or three days, umbilicated vesicles, pustulation and minute pitting, very much resembling smallpox. The study of the two diseases, and especially of cases that seem to occupy a place between them, is most interesting. Dr. Happel is to be congratulated on the faithful observations he has made and on his delay in making a diagnostic conclusion until he was assured of the true character of the disease he had to deal with.

DR. JAMES, Missouri—I was much interested in the paper, because in Missouri we have been enjoying this epidemic in a somewhat exaggerated form. We have been fortunate enough in having but few deaths from variola, or discrete smallpox. In our state we have had to fight for an opportunity to demonstrate the benefits of vaccination. We have also had an opportunity of demonstrating the peculiarities of some of the medical profession, and the mistakes of a great many of the profession who depend too much on their knowledge as clinicians. We are called to see a case that is supposed to be smallpox or chickenpox and we, on the impulse of the moment, diagnose the case, possibly in the stage of desquamation or inflammation. It is chickenpox. We are too bigoted and too bright to acknowledge our error; it is chicken-pox and the whole locality is so informed. In the western portion of Missouri several thousand cases of this form have appeared in certain localities, and the board of health of which I have the honor to be a member has been invited to pass upon the disease. In one locality, in a town of 15,000 or 20,000 people, I was informed that the disease prevailing was chicken-pox, passed on by men of vast experience in that disease during the Civil War. The locality begged for help. I called and found that this town had from 150 to 200 cases of discrete smallpox, with possibly 4 or 5 cases of the confluent form. In another locality there was a case which was brought to Kansas City; immediately I was invited to visit the case. I isolated it and vaccinated the people who had been [illegible] [illegible] [illegible] that we had no further development of [illegible] [illegible] locality.

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[2] Reynolds: System of Medicine, 1880, p. 32.

Dr. Chapman, Ohio—In Ohio during the last year or two, there has been quite an epidemic of this disease. I have also had to contend with the doctors in regard to the name of the affection. In some communities, hamlets or villages where I have personally inspected the patients, I have found 30 in a population of 102 in bed with the disease. In the majority of cases they were adults and very sick. A great many cases occurred in those who had been vaccinated and who bore the well-known marks of pseudo-vaccination. None of them had been vaccinated recently or had any mark of recent vaccination. I wish to call attention to one point. The disease varicella or chicken-pox is not a disease of adult life. It is a disease rarely found in adults. I beg to differ with the writer of the paper regarding his views. I have failed to see a case develop where vaccination had run its course. I object to vaccination after the disease has developed five or six days, because you then would have two diseases running. I do not believe that this is varicella. Formerly varicella and variola were considered alike. In a community of 102 there were 4 deaths from this disease. I believe that if it be left to run rampant there will be more deaths. I believe that if we, as health-officers, do not do our best to isolate the cases and vaccinate the community we shall get a severe epidemic of smallpox such as has never been seen. The majority of doctors have never seen a case of smallpox, and yet they know more about smallpox than those who have.

Dr. Corlett, Ohio—Twenty years ago I studied smallpox in London, and since that time I have studied the disease in various countries, and especially in this country and in the State of Ohio; we get different epidemics, differences in virulence and in clinical features. That is well recognized by all writers on this disease. During the past few years we have had in the State of Ohio a visitation of smallpox, which first started in a small town from an alleged case of chicken-pox. From those few cases the disease has gradually spread over the whole state. In Cleveland we have had a great many cases, hundreds of them, and during this time I have taken the occasion to make photographs of the disease, which I hope to exhibit to another section, showing the differential diagnosis between smallpox and chicken-pox. In Cleveland we have had a number of fatal cases; we have had an opportunity of showing the value of vaccination. I believe that many cases of supposed vaccinations, reported as typical vaccination marks, were due to other pathogenic organisms gaining access. When tubes are used with proper antisepsis a typical lesion occurs and it is devoid of the formation that is so common in a more careless vaccination. I am still of the opinion that we have chicken-pox and smallpox, which differ in severity, and that vaccination is the only safeguard against smallpox.

Dr. Woodruff, Ohio—I know vaccination is a protection. I know of one family of eight people, a dirty, filthy family, all had the disease but the mother and she had been protected by vaccination. I know of another family, where a young man, well to do, had a case of smallpox; he had the pustular form, with much fever, and he was very sick. In that family there were three others, two sisters and a mother, who were protected by vaccination and none of them took it. The stand taken is wrong, for we know that from the disease occurring in a town the whole country may become infected.

Dr. Stewart, Philadelphia—In an epidemic a few years ago in Philadelphia we had as high as 255 deaths in one week from smallpox. There was no mistake about the diagnosis of the disease at all. Any man who went through that epidemic can not fail to recognize the differences between varicella, varioloid and variola. They are as distinct as can be. There could be no mistake in diagnosing the three forms. In regard to the paper read here I do not think from the evidence given that it is any form of variola at all. It comes under eruptive diseases, of course, but I should think it was some form of vesicular exanthem of some kind, due to climatic conditions.

Dr. McCormack, Kentucky—The cases from Tennessee were cases of genuine but mild smallpox, and may have been the cause of the violent outbreak that occurred there where the death-rate was 60 per cent. [Dr. McCormack then moved the resolution which was published in the official minutes of the Section in The Journal, June 23, p. 1630.]

Dr. T. J. Happel, Trenton, Tenn.—I think the resolution is a gross injustice. Dr. McCormack never saw a case of the disease coming from Gibson County, and no case of the disease has been reported as going from Gibson County into Kentucky and none of the Kentucky or Ohio authorities know anything about these cases. I consider a resolution of that kind a gross injustice.

Dr. George Dock, Ann Arbor, Mich., Chairman—The resolution is out of order.

Dr. Happel (continuing)—I must say that many have misrepresented the intent of the paper. I have nowhere argued against protection against variola. Ninety-five per cent. of the persons living in my town were vaccinated under an enforcing ordinance drawn up by myself. Taking the position that I have in the paper, I wish to say that I have no axes to grind. I have succeeded in doing what I expected to do. Personally I have this to say. My first experience in the practice of medicine was with smallpox, and I have met with it time and time again. The cases reported have none of the typical appearances of true smallpox. I am not alone in this statement. I regret that the time allowed me does not permit my enlarging on this point. Whenever this disease has appeared there has been this same difference of opinion as to its identity with variola vera. The older practitioners, as a rule, who treated smallpox twenty years ago, constitute a majority of the doubters. The text-books written from twenty to fifty years ago do not describe any epidemic of smallpox where, as a rule, there was no secondary fever, no pustular stage, no pitting and no mortality. Some of our more recent works on practice have been rewritten on the subject of variola vera and have been made to conform to many of the features of this disease.

One of the most nonsensical arguments, or rather, statements, made in regard to this present epidemic is that continued vaccination through several generations has so modified the systemic conditions of the people that this epidemic in its mild form is easily accounted for. This statement is completely negatived by the fact that there has been no systematic vaccination of the negro population since 1860, and but little up to that time, as the Southern planter depended on isolation to protect his slaves, and not on vaccination. In the South the negro has borne the burden of this epidemic, representing fully 75 per cent. of the reported cases. In Tennessee vaccination, outside of the cities and incorporated towns, has been almost entirely neglected since the war of the sixties, owing to the reports of suffering brought back by returning soldiers who had been vaccinated.

Now, in conclusion, permit me to repeat and emphasize the fact that there is no stronger advocate of repeated vaccinations in this Association and no greater believer in its efficacy and protecting influence against variola than I am, but the point that I make in this discussion is that vaccination has not protected against this disease, as has been proved in the cases reported by me and in the letters received from different sections of our country, which I herewith submit and make a part of this paper.

In addition to what has been already said, I desire to present a few communications in regard to this disease that I have received from different parts of the South when the cases first appeared. I desire to show that I am not alone in the views presented in my paper. The first is an extract from an article by Dr. J. P. Fletcher, of Lonoke, Ark., sent me when I first began the preparation of my paper:

> Much discussion has been had at the bedside of the patient, as well as at the offices of the physicians of our town and surrounding country, about an eruptive disease which has been lingering in our midst since August 17 last. The history is as follows: About August 1 last, one of our citizens visited Little Rock, Ark., and was detained over night, which he spent at a private boarding-house. Upon returning home he was taken with a chill on the morning of August 17, which was followed with a high fever, pain in the head and back, lasting thirty-six to forty-eight hours, when a full crop of papules made their appearance on the face, followed by a full crop on the body. The fever subsided with appearance of

eruption. Patient up in five or six days. No secondary or recurrent fever followed. Desquamation leaves a discoloring of the skin, but no pits, but rather a prominence. This gentleman's family consists of wife and three little boys from 5 to 9 years of age. The boys took it in the course of the following twenty days. The wife and mother escaped entirely. The attending physician diagnosed the case chicken-pox, confirmed by the president of the State Board of Health. . . . I will now give you a brief history of the most interesting and mystifying case that has come under my care. Dr. J. F. O., who was well vaccinated two years ago, was taken ill December 14 or 15, with all the symptoms of all the other patients. There was a full crop of eruption, representing all the stages of full pustule—umbilication excepted—to the minute papule, winding up without a single pit. Up to the 12th inst. his face was still covered with papules, which were gradually fading, leaving the surface smooth and natural. His family consists of father, mother, wife and two little girls. The elder of the little girls was vaccinated when her father was, some two years ago. Both children and grandmother had mild attacks. Grandfather and wife escaped entirely. What is this disease? From the teaching of our latest and best writers I can not think it smallpox. I have been exposed to it from the commencement, and am not an immune from smallpox. Up to this writing have not had any symptom of the disease. I have treated thirty-two cases. We have had, in all, possibly sixty cases in town, with only one death.

Lonoke, Ark., Nov. 29, 1899.

Dear Doctor:—With great pleasure I have watched the proceedings of the Tri-Medical Association during its late session. I was very much interested in your paper on smallpox diversion. The *Commercial-Reporter* gave only a synopsis of your paper, but sufficient for me to comprehend your position in the matter of the disease. In August, 1898, the first case occurred in our town and during the summer and fall we had from 50 to 75 cases, in which we had but one death, and that was a young lady of very delicate constitution, who was also suffering from menstrual trouble. We were informed by an expert, so-called, that as soon as cold weather set in the disease would spread rapidly and be attended with great fatality. During the cold weather, however, there were but few cases, and these very mild, so much so that few called a physician or even consulted one. Up to May 1 of the present year we had 150 cases in the town and surrounding country, with but the single death mentioned above. Another remarkable feature of the disease was that the only fully confluent cases which came *under my care were those that had been vaccinated a year or* two before. Again, in families of from 5 to 8, 2 to 6 cases would occur, and the rest escape. There was no odor nor recurrence nor secondary fever or pitting after desquamation. My experience with this disease, so-called smallpox, is that it is evidently not even moderated by vaccination, but rather intensified. It is still lingering in our state and it seems to be a concurrent opinion with the profession that it is smallpox, except a few independent thinkers who have the backbone to express their convictions to the contrary. I hope some learned expert will soon find a name for the intruder.

Yours fraternally, J. P. Fletcher, M.D.

South Boston, Va., Dec. 1, 1899.

Dear Doctor:—I am heartily in favor of abandoning the old name of smallpox as applied to this mild or pseudotype of the disease. We have had some 75 or 100 cases here, and they all seemed to get along all right without even the attention of a physician; some kept at their ordinary duties until detected by the health officer. Not one case was sick enough to require special attention. Many of them were negroes, and, according to our best writers, this race usually suffers most. In this instance the negroes suffered least; many of them never stopped from their usual labors. I am unable to understand why we should have such a mild type of so fatal a disease. Vaccination seems to have but little effect in preventing or modifying the attacks. Hence I am at a total loss to know what to call the disease that is contracted from those who have previously undergone thorough vaccination. There does not seem to be any difference in severity in those who have and those who have not been vaccinated. Do you think genuine smallpox can be contracted from varioloid? Fraternally,

Bittle C. Keister, M.D.

Columbia, Tenn., March 15, 1900.

Dear Dr. Happel:—It is currently reported here that you have backed down from the position you took last year in regard to this thing that every little four-by-six doctor is calling smallpox. We have it here, and have hundreds of cases, and not a single scar or death from it yet, nor a single case that has been sick enough to give any concern; any number of them running their course in four to seven days and none lasting longer than fourteen days; never any true pustules or crusts nor any secondary rise of temperature. It occurs as readily and as often in persons recently vaccinated as those not. Vaccination takes as readily after the attack as in those who have not had it.

It occurs as severely in those that have previously had true smallpox as in any other class, as I have had an opportunity to observe in two cases. The patients are sick only one or two days and often not then. In other words, it has nothing in common with true smallpox, and I am very sure it is nothing akin to the genuine article. Please write me if you have changed base in the matter. Your sincere friend,

W. K. Sheddon, M.D.

Coldwater, Miss., Jan. 11, 1900.

Dear Doctor:—This is to obtain a knowledge of your views relative to a very prevalent skin disease simulating smallpox that is scattering all over several states in the South. We have it in this town and prominent physicians are very much divided in opinion as to what it is. It is unnecessary to give you symptoms in detail, as I learn that you have the same trouble in your county. But very few of my cases pit, and none seem to be protected by vaccination. The mortality is very low. I am not of the opinion that it is true smallpox. But many of my older colleagues are very friendly toward the variola idea, yet none have ever seen a case of smallpox before the appearance of this disease. If you have named the trouble please write me full particulars. Yours truly,

Geo. H. McCain, M.D.

McKenzie, Tenn., March 24, 1900.

Dear Sir:—Our town is just now having its first experience with the so-called smallpox, so pronounced by Dr. Albright, Secretary of the State Board of Health. Dr. R. D. Given, one of our oldest and ablest physicians, stoutly contends that it can not be smallpox. He has been attending the patients daily and has treated old-fashioned smallpox several times during his practice. It has been told here that you contended for a long time that the disease that has been *called* smallpox by the state health authorities in your county was not smallpox, but that you had recently changed your views and are now convinced that you were mistaken in the opinion you formerly held. For my own satisfaction, and for that of others, I would like to know if this is true. Very respectfully,

J. T. Burns.

Hickman, Ky., May 13, 1900.

Dear Doctor:—Have you had any experience with the cutaneous eruption that has infested this country for the past twelve months or more? If so, do you think it is smallpox as it has appeared in this country before, or as it is described by the authors on the subject? Do you think it likely we could have at this place over a hundred cases of smallpox—most of them negroes—broken out from head to foot—many of the lumps so close together as to compress each other like peas in a pod and not have a case of secondary fever? A few of the cases had chills; most of them had chilly sensations, headache, backache and fever. Eruption appeared on third day. Patients feel ill on the fourth day; some of them on the fifth. After that the appetite is good. They claim to feel as well as *ever, and go to work if you allow them. The eruption remains* out for weeks in some cases. There is a little milky fluid under the cuticle about the fifth or sixth day. If the cuticle be rubbed off, the lump is smooth and oval, and is removed by absorption at the base, remaining oval on the apex—unless scratched or irritated—until it disappears, leaving no pit whatever. Some of these cases have quite sore throats for two or three days. One of my cases had marked photophobia, with inflamed lids. In all the cases—I have seen over thirty—I have prescribed a gargle in four only, and solution of boracic acid for the eyes in one. That is all the medication they received, except cosmolin over the exposed parts. If we admit this to be a mild type of smallpox, do you think it would have been advisable to have placed all these cases in a small pest-house? Might it not have aggravated the type? I had guards put at the houses, and isolated them the best I could in that way. But after the fifth day it was almost impossible to keep them confined in any place. Yours, etc.,

Alex. A. Faris,

Crockett Mills, Tenn., May 26, 1900.

Dear Doctor:—I am desirous of obtaining your ideas on an "eruptive disease" which we are having at present in this part of Crockett County. I have been informed that you have had considerable to do with a malady of this type in your county, hence my writing you. I will relate the history of a typical case which, with two others not so typical, has been under my care and observation. The patient, male, white, aged 17, was taken sick the 10th inst. with slight fever, headache, malaise, etc., as the history was given me on Saturday, the 12th, which was the first time I saw him. At this time, the third day of his illness, he complained of frontal headache, general malaise, constipation and some muscular pains; his temperature was 101.2 F. No chill had preceded these symptoms, nor was there any nausea or vomiting or lumbar pains. There had been also in the same family, about two weeks previous to the case in question, some eruptive trouble, which I did not see, but which was diagnosed by the attending physician as "biliousness and impetigo contagiosa." This patient, a girl, remained in bed only two days, so I was informed. Knowing that there had been a "suspicious case" in the family before the boy was taken sick, I took particular care to examine his entire body for some sign of an eruptive trouble, but found none. I inferred therefore that the case was one of la grippe. On the following morning I called again, at which time the boy was covered from "head to foot" with a vesicular eruption, each having a "halo." His temperature at the time was normal, all discomfort had disappeared, and, to use the boy's words, "he felt like being out." These vesicles were on all parts of the body, but more particularly on the face and hands, and not more than one in a hundred were umbilicated, and then only slightly so. On pricking them with a needle they at first would collapse, but later would not, showing that they were reticulated. They remained in the vesicular stage for four days, when they assumed the pustular form, going on to scab and desiccation during the next twelve days. As before stated, there was no pre-eruptive rash of any description, neither was there even a papular stage preceding the vesicular, and his temperature stayed at normal from the appearance of the eruption till the end of the attack. Three representative physicians of this county saw the case with me during the lactescent stage of the eruption, and they unhesitatingly diagnosed the case as one of true, discrete variola. From this diagnosis I dissented, for the reason that there was not and had not been anything charactristic of this malady any of the time, except the vesicular eruption, which was then present; and because the temperature, as in the other case, was normal, and remained so all the balance of the time. Neither was the beginning of the attack characteristic of variola—no chill or chilliness, no nausea, no "backache," and above all, no pre-eruptive rash, followed by papules, giving the "shotty feel" on palpation. In fact, there was absolutely no indication of an eruption until the crop of vesicles appeared. You will notice, too, that from the initial stages until desiccation was nearly complete only sixteen days elapsed, and there was no "secondary fever." I am sure the case was not varicella, because the eruption came too late for that, came out suddenly, and there was not the characteristic phenomena of papules, vesicles and crusts appearing on the same parts of the body in proximity. I omitted to say that the eruption appeared scantily on the tongue and the pharynx.

There have been more than fifty cases of this trouble in Crockett County, with no deaths, and in many instances the parties having the disease did not go to bed, or only stayed there two or three days. I can hardly bring myself to believe this to be variola; if so, I have been misled by the most eminent authorities, viz., Osler, Anders, Tyson and the American Text-book (Pepper). Now, Doctor, I have written you with no other motive in view than obtaining information, or rather obtaining your ideas on the subject, which I may say without any degree of flattery, I am sure are as good as I can obtain, believing, as I have a right to do, that you have seen similar cases and are competent to give me something definite on the subject. I shall hold what you say "sacredly confidential" if you desire it. The cases in question were never vaccinated.

W. T. Redmond, M.D.

Salt Lake City, May 23, 1900.

Dear Doctor:—I see by the program of the American Medical Association that you are to read a paper on "Pseudo (?) or Modified (?) Smallpox." This subject intensely interests me, as we are having an epidemic of modified (?) smallpox (?) in the West—Utah, Montana, Colorado, Oregon and Wyoming. The profession is at sea and many good men differ as to a diagnosis. Yours, H. N. Nayor, M.D.

PSEUDO, MODIFIED, OR TRUE SMALLPOX—WHICH IS IT?

H. M. BRACKEN, M.D.
MINNEAPOLIS, MINN.

The first term is in common use at the present time. Let us analyze it. It is applied indiscriminately to a mild eruptive disease prevailing quite generally throughout the southern and middle states and, to a limited extent in other parts of the country. This disease is admittedly like smallppox in many of its characteristics, but those who use the above term in describing it insist that certain characteristics of smallpox are absent. I presume no one will dispute the fact that the disease prevailing so generally, whether accompanied by slight or severe symptoms, is one and the same when the line of infection is clearly continuous. It is therefore all smallpox or not smallpox. Let us consider carefully some of the arguments used against the diagnosis of this epidemic disease as true smallpox.

First, the mildness of the disease! It is absurd in this day of advanced knowledge to put forward such an argument. We all know that there may be mild epidemics of diphtheria, in which the majority of cases may show but little membrane; that often diphtheria prevails as an epidemic under the false name of tonsillitis until a few deaths arouse the lethargic physician, or a microscopic examination reveals the presence of the bacillus of diphtheria. Who would say that an epidemic sore throat with the specific bacillus of diphtheria present was not diphtheria because the disease was of a mild type, and had none of the dangerous symptoms of malignant diphtheria? Again, we have probably all seen an epidemic disease with many of the characteristics of scarlet fever but varying in degrees of intensity from the mildest rash, characterized by the old-woman doctors of both sexes as scarlet rash, to the severest type with the accompanying fatal sequelæ. Would any intelligent physician of modern days say that the cases with the mild symptoms and those of the severe type were not one and the same? It was not many years since it was considered necessary to have the typical history of typhoid fever before we were willing to call a fever by this name, but now we know that there may be a mild typhoid fever with very few of the classic symptoms of that disease. Let us be reasonable then and admit that while it is the rule to have a mortality of from 25 to 50 per cent. with smallpox, it may be possible to have the disease in mild form with a very low mortality.

The eruption is said not to conform to the book description of smallpox. Are we such slaves to books that we can not make a diagnosis of smallpox without all the cases having an ideally-formed eruption? It is no uncommon thing to find grouped together cases with the typical eruption at one extreme and the non-eruptive cases at the other, with all grades of eruptions between. Would any one with the history of a common infection say that some of these cases were smallpox, and the others not? What would those who need a classical eruption in order to make a diagnosis do with the most fatal of all, the hemorrhagic cases? I presume they would call them purpura hemorrhagica instead of hemorrhagic smallpox.

The temperature is said to be too mild in the majority of cases. Why should not the temperature be mild if the infection is mild? It certainly would be a freak of nature to cause a prevailing fever out of all proportion to the degree of infection. The secondary fever is said to be absent. The physician who has to wait for the secondary fever of smallpox before he can make a diagnosis would do well to change his profession. Why should there be marked secondary fever when the eruption is mild? Not long ago I saw a young lady with probably not more than a dozen smallpox pustules on the entire body. Why should she have secondary fever? Her brother, a young man, contracted the disease from her. He had confluent smallpox and a secondary fever.

Those who wish to call this mild type of smallpox by some other name, point to the fact that good authors state the danger of infection from smallpox is present during the entire progress of the disease, and likewise that all who are exposed to a given case at a given time do not promptly succumb at one and the same date, about fourteen days from the time of exposure. But why should they? All individuals may not be equally exposed at one time. Some may be more susceptible to infection than others. It is possible for an individual to have absolute resistance to infection at one time and not at another. It is even possible to have a natural immunity against this disease, the same as with other infectious diseases. Some writers at least who use the evidence of mild or irregular infection as an argument against smallpox, in speaking of this disease seem to recognize the fact that as a rule it attacks all, or at least many, of the non-immune members of a household when it once appears. Those physicians who consider the disease smallpox are cognizant of the fact that all who are subjected to a casual exposure do not of necessity become ill. Why should they? With the disease in mild form it is quite natural that the degree of infection should be mild. But even with the disease in severe form a casual exposure is not necessarily followed by infection. About one year ago I visited a child who died of confluent smallpox while I was at the house. Her father, a physician, had failed to recognize the disease. As a consequence the whole village had practically been exposed, many of the inhabitants more than once, for the child lay ill in a semipublic room and had many visitors. Yet, following this there were only eight cases from direct infection.

It is said that some of the prodromal symptoms of true smallpox are wanting in this epidemic. Granting this to be so, it proves nothing. We do not need all of the classical symptoms of typhoid fever in order to make a diagnosis. If a few typical ones are present, that is sufficient. I venture to say that with the exception of the smallpox cases without eruption, all of those occurring even in mild form have a sufficient number of symptoms at some stage of the disease to enable the careful observer to recognize the presence of smallpox.

Some of the doubters state that vaccination does not protect against the prevailing epidemic. This does not agree with my experience. An old vaccination, an imperfect vaccination, a vaccination made after exposure, may not afford protection. But in a large percentage of *successful,* recent vaccinations protection is complete. Some have been vaccinating these cases during or immediately following their recovery with the belief that evidence of a successful vaccination under such conditions would tend to stamp the disease as not smallpox. Such a test is absolutely useless. There is no reason why vaccinia and variola should not exist at one and the same time in an individual. They may have some influence on each other without complete antagonism. It would be strange, however, if all those who had this mild form of smallpox should respond to vaccination made a sufficiently long time after recovery from the first disease. I do not think they all will, and my opinion in this matter has been borne out by the experience of those observers with whom I have been associated.

Regarding the advisability of calling this mild type of smallpox—for such it undoubtedly is—a modified smallpox there is little to say. It certainly is not varioloid, for by this we mean smallpox modified by vaccination, and many of these mild cases under consideration have never been vaccinated. If vaccination had been practiced quite generally over our entire country thirty and forty years ago, and then neglected during the past twenty years we might then think that a partial immunity had been secured. I do not lean to this latter belief, but rather to the opinion that we have nothing more or less than a mild type of disease, such as may occur at times with other infectious diseases. A few illustrations may be of value.

About a year ago I was called to see a man, aged 40 years, suffering from an eruptive disease called chicken-pox by his attending physician. He gave the history of having had somewhat marked symptoms before the eruption appeared, with but little discomfort afterward. The case had not been quarantined before the seventh or eighth day of the disease. The population of the village was about eleven hundred. Investigation brought out the fact that in all there were eleven cases in this village; nine preceding and one following this man. Most of these were adults, all closely associated. None had as marked eruption as the man under consideration. All had marked prodromal symptoms but not all of those described in books as belonging to smallpox. The source of infection for these cases was traceable to undoubted smallpox. The man under consideration had smallpox. The others had beyond a doubt the same disease, although in very mild form. None of the cases were fatal.

Again, in the early spring of 1899, a man, aged probably 50 years, returned from California, visiting for a time in Nebraska before reaching his home in southern Minnesota. At the time of reaching home he had a mild eruption, which did not discommode him at all, and which he called chicken-pox. Shortly after his return, his wife became ill with smallpox and died. She undoubtedly contracted the disease from her husband, who had had smallpox in mild form instead of chicken-pox. There were five other cases of smallpox from these exposures, varying in degree from a very mild exanthem to a most marked eruption. One of the patients, a physician, died of smallpox contracted while attending the first fatal case.

Again, early in August of 1899, it was reported to me that two young men, doing business in a city having a population of about 3000 inhabitants, were ill with chicken-pox. I advised the local health officer to be on his guard, as in all probability the young men had smallpox in mild form. Later I learned that no heed had been given my advice. The young men had carried on their business as grocers, regardless of the disease. From this infection there were in this city and vicinity over two hundred cases of smallpox *without a death.* However, there were four deaths in places somewhat remote, traceable to infection at this place.

It is not difficult to furnish illustrations like the above. There have been over one thousand cases of smallpox in Minnesota since January of 1899, having the characteristics of the so-called pseudo or modified smallpox. There has been a total mortality of a trifle over 2 per cent., although in some localities with many cases there have been no deaths. Some of the fatal cases were of the acute hemorrhagic type, causing death before the fifth day. In several of these cases a correct diagnosis was not made until after death.

We can not be too careful in dealing with the present general epidemic of smallpox, and those physicians who have failed to make a correct diagnosis or who are seeking notoriety by suggesting a new name for an old disease can do much toward aiding in the suppression of the trouble by admitting their errors, or at least ceasing to preach false doctrines.

TYPHLITIS, PERITYPHLITIS AND APPENDICITIS IN INFANCY AND CHILDHOOD.

CAUSATION AND RELATIVE FREQUENCY*.

JOSEPH HENRY BYRNE, M.D.
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The title of my paper might possibly lead some to suppose that I was about to bring forward few or many well-grounded facts which might tend to sustain the theory of the older writers. I wish, however, to correct any such impression at the start, for I fear it is not within my power to add much, if anything, to a subject that has been so thoroughly gone over by the most competent men in the profession, both here and abroad. The wonderful strides that have been made in pathology and bacteriology, within the past two decades have so thoroughly revolutionized matters that we are forced to disregard theories that only a few years since appeared tenable, as patient research and the aid of the microscope have removed many an obscurity. However, this does not seem to have been the case with typhlitis and perityphlitis, as the theories that were first accepted seem to have been the result of mere speculation. Most of us are familiar with the teaching of Albers, which he advanced about 1838, and which was accepted as the correct view by the majority of all writers of text-books for nearly half a century. About the same time Grissolle did his best to controvert these teachings, as he certainly perceived that they were groundless. He was by many of his confrères looked upon as a "crank," and, in reality, he was the one who set the wheel of knowledge revolving in the proper direction. He rightly asserted that inflammations involving the cecum were not accompanied by accumulations of pus and perforation of the appendix, which we find in the right iliac fossa, when even dysentery and ulceration of this part did not tend to involve the adjacent connective tissue. He again claimed that disease of the vermiform appendix, with its phlegmonous inflammation, pus formations and perforations, explained in a satisfactory manner the chain of events as they actually take place, and he thus gave us a fairly true picture of what we now know positively occurs. His theory was not speculative, but was the result of patient and careful research and actual post-mortem investigations.

The weight of evidence is so abundant that we must be led to the belief that the premises on which the other writers based their conclusions, with the exception of Grissolle, were erroneous. We are also forced to the conviction that the inflammations around the cecum take little or no part in the production of appendicitis; also that few cases of typhilitis exist as a primary disease, and that perityphlitis only takes place as a secondary complication. In fifteen years I have never seen a case of primary typhlitis or perityphlitis, and the literature of recent years shows that the majority of others have had like results.

Hawkins, in his book on diseases of the vermiform appendix, while referring to the inflammatory trouble found in the right iliac fossa, states that the cecal theory has undergone gradual modification until it is now quite extinct, owing to the fact that all evidence is opposed to this theory, both clinically and pathologically. It is very easy to understand how such men as Laennec, Ferrall, Burne, Albers and others entirely ignored this little rudimentary offshoot when the great surgeon, Dupuytren, looked on the cecum as being the starting-point in the trouble, and it was probably owing to his support that the true cause of the disease was so long withheld from view.

Einhorn, of Germany, in 100 cases, found the appendix the origin in 91 per cent.; the cecum in only 9 per cent. Wallis, in 52 cases, found the cecum to be the cause of 10 per cent.; the appendix in 89.8 per cent. Renvers, in 586 autopsies after perityphlitis, found the appendix ruptured in 497 cases, and expressed as his view that five-sixths of all the fatal ones were caused by perforation of the appendix, and that perforation of the cecum occurred in 13 per cent. Agar, in 218 autopsies for a similar condition, found cecal perforation in but 29 cases. Volkmann stated that it was his belief that typhlitis and perityphlitis are due to perforation of the appendix, except in those cases of tubercular and typhoid ulceration of the cecum itself. Talamon says that early operation seldom, or never, shows the presence of inflammation or perforation of the cecum, and that we are, therefore, correct in ignoring the observations of the older writers. He, however, admits that it is secondary to the inflammation of the appendix; that the process takes place from without inward, owing to the proximity of the organ to the peritoneum covering the former. Hawkins, like Volkmann, believes that the cecum may be the seat of trouble in tuberculosis, dysentery and typhoid fever, but concludes that the process is then only part of the original disease, and that perforation under these conditions is not likely to occur. Stercoral accumulations in the cecum may very rarely produce a mild inflammation, but never give rise to ulceration and easily disappear on the administration of purgatives. Mynter, like all recent writers, states that the chain of events points directly to the appendix as being the primary seat of the trouble, and directs our attention to the predisposition of the affection to occur after one attack, whether that be mild or severe, and such, I firmly believe, must be the experience and conclusion of all of us.

Owing to the fact that the mucous membrane of the appendix is continuous with that lining the cecum, it would be a most natural assumption that inflammatory and ulcerative conditions involving the membranous covering of the latter would by extension spread to that of the former, but such does not seem to be its tendency.

The inner coat of the gastrointestinal tract is frequently the seat of varying degrees of inflammation during the periods of infancy and childhood, and we are all familiar with the different forms of gastro-enteritis and ileocolitis of the catarrhal, follicular and ulcerative types. If these ordinary inflammatory states played a major part in the production of appendicitis, we would frequently meet with this condition during early life, while statistics prove beyond question that the disease is rather infrequent before the fourth year, increasing between that period and the tenth, while the majority of cases take place between the tenth and thirtieth years.

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If any relation existed between these two conditions, we would naturally look for an increase in the number of cases during warm weather, when the above diseases are more prevalent; but there seems to be no difference whatever so far as the seasons are concerned, as appendicitis is just as frequent in the cold as in the warm months. It is a well-known fact that inflammations in the large and small bowel have little or no tendency to involve the peritoneum, and that the opposite is the rule with an inflamed appendix. With this in mind it is easy to understand how the inflammatory process can extend to the serous coat of the neighboring parts and the adjacent connective tissue.

ANATOMY.

Before proceeding further it might be well for us to view the component parts of the appendix with its blood-supply and mesentery anatomically, for in these parts, as we will later see, are to be found a few potent factors in the causation of the disease.

From within outward we find the mucous coat lined with cylindrical epithelium with its basement membrane, tubular glands and closed follicles. The reflection or folding of this membrane, when such takes place, at the cecal opening, forms what is known as the valve of Gerlach. The submucosa is made up of connective tissue, with spaces for the blood-vessels and lymphatic openings. The muscular coat is composed of a few non-striated, longitudinal muscular fibers, with a varying amount of fibrous tissue, innermost to which are found some circular fibers that are not very numerous in the majority of cases, the combination of both forming the greater part of the entire wall of this organ. Some have gone so far as to state that no circular muscle fibers exist, but the majority rightfully claim otherwise, as the microscope has disclosed their presence on numerous occasions. The conformation of the fecal concretions so frequently found adds another proof of their presence, as the tapered ends and convex surfaces of these masses tend to show that peristaltic waves take place from either end of the appendix toward the center of these bodies.

Lastly, we come upon the serous coat, which, in the majority of cases, i. e., over 75 per cent., entirely surrounds this organ. While this membrane is in close proximity to the underlying structures of the appendix, and takes a more or less active part in all the inflammations involving it, it must not be forgotten that it is a distinct structure in itself, and is only a part of the general peritoneum.

The meso-appendix, which is triangular in shape, varies in size, sometimes accompanying the organ for its entire length; in other cases, and, in fact, in far the greater number of cases, it only extends part way; or, again, it is occasionally conspicuous by its absence.

The arterial supply, which consists of a single branch, passes along the free edge of the meso-appendix to the distal end of the organ; when no mesentery exists it passes beneath the peritoneum in the same direction. In the female an anastomotic loop is given off from the region of the right ovary.

The appendix varies more in size, position and general make-up than all the other structures of the human anatomy. The size seems to bear no relation whatever to the frequency of the disease, as a very large appendix is just as apt to become the seat of an inflammatory process as a smaller one. In childhood the organ is very rich in lymphoid tissue, has been compared to the tonsil, and, therefore, has been styled the tonsil of the intestines.

The appendix is an atrophied organ, or the rudimentary remnant of a lengthened cecum seen in nearly all mammalia except man. It is also found in the wombat, and is present in the different types of the higher apes, but in the latter, so far as our knowledge goes, it does not seem to become the seat of inflammation. It being an admitted fact that this organ is an atrophied, a functionless and rudimentary one, with a blood-supply that can easily be interfered with, and which at its best seems barely sufficient under healthy conditions, it must, therefore, be more or less susceptible to any inflammatory state. The physiologist up to the present time has not credited this little mischief-maker with any special function or assigned to it even a remotely-indirect part in our vital economy. Some have suggested that the secretion might act as a lubricant to the adjacent parts; but if such were really its office, the dwarfed condition which we find would not be the rule, but the exception. The fanciful ideas of some need not receive our consideration, as up to the present we know nothing of its good qualities, and have prudently learned to fear it. It, therefore, resolves itself into a useless and dangerous organ, and we may honestly classify appendicitis as one of the later additions to the ills that we are told man became heir to on the fall of Adam.

The first anatomic description of the appendix is credited to Capri, 1524. Videus, in 1561, applied to it the qualifying term "vermiform," which it holds to the present day, while the valve and the appendix were both described by Lieberkühn in 1739, but real accurate accounts did not appear until the present century. As early as 1759 a case of perforative appendicitis was described by Mestivier, and between 1827 and 1868 a number were recorded by English, French and a few by German writers. In these early cases, although the description points conclusively to the existence of true appendicular inflammation, all of them being of the perforative or suppurative varieties, the pathological conditions were not understood, and their views, necessarily, are not in accord with the knowledge which we possess at the present time. This offshoot from our alimentary canal can be looked on as unimportant, so far as its usefulness is concerned, but most important from a medical and surgical standpoint, owing to the fact that it is commonly the seat of pathologic changes. It did not attract much attention until within the past fifteen years, when the real importance of appendicitis became understood, its pathology disclosed and the different stages first described. Although the earlier writings of our foreign brethren first brought the subject to our notice, the credit for our present knowledge regarding the disease belongs to us, owing to the able contributions of Weir and McBurney, of New York, and Fitz, of Boston, which placed the disease within the proper focus, thus enabling us to intelligently understand the part the appendix played in the different conditions, as formerly described and as we see them today, our eyes being opened for the first time to a clearer insight into the sequence of events as they take place pathologically in this appendage. If I were to stop here I would be doing an injustice to one of the younger men in the profession, as it was Dr. Hodenpyl, of New York City, who first suggested that the bacillus coli communis played an important part in the production of appendicitis, and later observation by himself and others proved this to be correct.

ETIOLOGY.

Formerly the principal cause in the pro
disease was attributed to the presence

foreign bodies in the lumen of the appendix, and an operation that did not reveal the presence of such a body was not looked on favorably by the laity, so forcibly was this impressed on their minds. Within the past ten years or less the disease of this organ has attracted so much attention that its true character has been better understood, so that the existence or absence of orange, grape or date seeds, etc., is looked upon as playing but a minor part in the production of this affection. When, however, they do exist, they, like fecal concretions, act in a mechanical way, and thus become pathologic factors in bringing about the trouble, either by occluding the lumen, by interference with the blood-supply or the normal peristaltic movement, or, finally, by acting as irritants. The knowledge within our possession leads us to classify our causes under two main heads—predisposing and exciting.

PREDISPOSING CAUSES.

The variations in the size, position, character of the lumen, and the anatomic structures in and about the appendix, call our attention immediately to the consideration of a few very important agents in bringing about this disease. The average size of the appendix, according to Ribbert, varies during the different periods, being longest during early adult life. At birth it measures 2 4/7 cm.; up to 5 years, 7 2/3 cm.; from 5 to 10 years, 9 cm.; from 10 to 20 years, 9.75 cm., and from here on it seems to decrease. With the length it may be well to take into consideration the mesenteric attachment. When the latter accompanies the organ in its entirety, or nearly so, it is apt to assume a position that is straight, or one that is nearly so; but where the mesentery is incomplete it may then become curved upon itself or twisted, which it actually does, thus interfering with the circulation and the free drainage of the normal secretion, which, when locked up for any length of time, may of itself, or by the addition of another factor, bring about a catarrhal condition. Again, the curve, or kink, would naturally retard the egress of any fecal material that might perchance gain admittance, and we then have added a new element of danger, as the conditions are then ripe for the formation of a concretion which may receive further additions of fecal material, and which may also become the seat of calcareous deposits.

The next point for consideration is that of position, and we are all well aware that the appendix is not exclusive in its choice. It, however, in about 60 per cent. of the cases, selects one of two positions; in the first the appendix takes an upward and inward direction, looking toward the spleen, and in the second instance it lies directly behind the cecum itself. Both these favor the complete emptying of the cavity of its normal secretion or any fecal matter that might possibly have gained admittance. If, on the other hand, the selection is in any way opposed to gravity, we have certain elements of danger added, as the ingress of material is facilitated and the egress is more or less hampered; thus an unusual amount of labor is put on the muscular coat, which we all must acknowledge is barely sufficient under normal conditions.

The appendiculo-cecal opening and the cavity itself are of some moment, and, therefore, must claim a share of our attention. The former being the common entrance for both incoming and outgoing material, an opening that would permit free passage is one that we would naturally select, and in the majority of cases this is not always what we find, as the door of communication is sometimes so narrow that a filiform bougie is passed with difficulty. Whether this state is congenital or more likely the result of one or more mild attacks of inflammation, or retrograde changes, does not concern us only so far as it obstructs the way. Along the canal itself constrictions are commonly met with, and act in a similar manner to the above. They are the result of cicatricial contractions following one or more inflammatory attacks, and vary according to the degree of destruction of the mucous membrane and the underlying tissues. The lumen varies considerably, a narrow pouch facilitating the complete discharge of mucus or fecal material, when no strictures or twists are present, while a large one adds to muscular effort, and, owing to the likelihood of its incomplete emptying, favors the production of fecal concentrations and inflammatory processes.

A very interesting table is one given by Ribbert, in which he tells us he found 99 cases of stricture in 400 bodies, and what is still more interesting, that the frequency varied with the age of the individual: At 1 to 10 years, in 4 per cent. of bodies; at 10 to 20 years, 11 per cent.; at 20 to 30 years, 17 per cent.; at 30 to 40 years, 25 per cent.; at 40 to 50 years, 27 per cent.; at 50 to 60 years, 36 per cent.; at 60 to 70 years, 53 per cent.; at 70 to 80 years 58 per cent.

The infrequency of stricture between the first and twentieth year leads to an important question: i. e., whether the lesions are the result of inflammation or retrograde changes. Fitz and others claim that the condition is pathologic, but Ribbert and Hodenpyl, while admitting the possibility of the former, state, however, that the majority are the natural consequence of the latter. Strictures have been found a number of times in the fetus, and Hodenpyl notes two cases found by him in the new-born.

Most of us are called on to treat children suffering apparently from some stomach or intestinal trouble, which usually responds to treatment in the course of three or four days, the cause being ascribed to some indiscretion in diet. It is my firm belief that if we were a little more careful in our examination we would often find the appendix the seat of a mild catarrhal inflammation, which later on may result in a constriction. As an exemplification of the effects of these mild attacks of inflammation, I will cite a very interesting case which lately came under my observation.

A little girl between 12 and 13 years old, according to her mother's statement, for several years had occasional attacks of what she called "biliousness"—two or three each year—during which time she suffered from nausea, vomiting, pain in the abdomen and headache. The child usually recovered in three or four days. A purgative was always administered with other home treatment, the doctor not always being consulted. The last seizure was more severe; about the fifth or sixth day the family physician was consulted, and the following day, through his kindness, I saw the patient. A few hours after my first visit I removed the appendix and found the proximal end of the canal nearly closed for about one-fourth of an inch; the minute communication that still existed was filled with broken-down material. The appendix was a little over three inches long, and three-fourths of an inch wide at its center. It was flattened upon itself, gangrenous, ruptured through both sides a little above the center, and still contained within its lumen a large fecal concretion. The cavity itself was considerably dilated, this being due to the long-continued retention of mucus and fecal matter. Firm adhesions walled in about two ounces of pus, detritus and feces. The stump was so rotten that it was sutured with difficulty, and finally gave way on the eighteenth day from incessant coughing, caused by a complicating double pneumonia. The patient eventually recovered.

The concretion in this case was evidently secondary to one or more attacks of catarrhal appendicitis, for had the opening been many times larger it could not have gained admission to the cavity. Healing by granulation near the opening resulted in the formation of cicatricial contractions, the fecal matter that entered was locked up within its walls, the watery constituents absorbed and the first stage of this condition was completed. The dilatation of the lumen followed from the retention of the normal, and, later, the exaggerated, secretion, the concretion acting as a ball valve at the door of communication. The subsequent attacks resulted from decomposition of mucus, the irritation caused by the presence of the concretion, interference with the circulation, and, lastly, from the invasion of micro-organisms.

Comparatively speaking, the appendix is relatively larger in fetal life, infancy and childhood than it is in adults; and, according to Ribbert, it compares with the large bowel as 1 to 10, while in adults its relation is 1 to 20. It is also somewhat longer and wider in the male than in the female, and this holds good in the early periods of life.

With the diminishing ratio, which is nothing more than a retrograde process, the vascularity of the part must also be lessened, and, as the tissues receive their nourishment through this channel, I am firmly convinced that the slight immunity that exists in the earlier periods of life can be credited to the fact that these changes in the majority of cases are not sufficient to interfere with the integrity of the organ until after the fifteenth year, and statistics support this assumption, as only about 15 per cent. of all cases of appendicitis occur prior to the fifteenth year.

Mucous Membrane.—In early life the mucous membrane of the appendix possesses wonderful power of absorption, and this in itself becomes an active predisposing cause.

Sex.—All statistics prove beyond doubt that the female is less frequently the victim of appendicitis than the male, and the percentage does not seem to vary any more in the earlier periods of life than it does in later years. Some good reason evidently gives the female this advantage, and this is accounted for by the increased blood-supply, a small anastomotic branch being given off from the region of the right ovary, and passing along the appendiculo-ovarian ligament of Clado, and secondarily to the comparatively smaller size of the organ itself. In the male a single blood-vessel supplies the part, and all anatomists agree that no anastomosis exists. When for any reason the circulation is interfered with by kinks, twists, constricting bands, compression, etc., compensation can not take place, and the result is a lowering of the vital powers, an inability to resist even a mild inflammation, if such should attack the part.

Recurrence.—Mucous membranes that have once been the seat of catarrhal inflammations are predisposed to successive attacks. This is seen in that covering the tonsils, bronchi, air-vesicles, bladder, etc., and the lining of the appendix does not seem to be an exception to this rule. The following figures, taken from the work of Mynter, treat particularly of relapse, and are worthy of note, as they give the result of accurate observation, but, unfortunately, do not state the actual number of cases on which the percentage was based: Irish found that 50 per cent. of the cases tabulated by him suffered recurrence; Price, likewise, 50 per cent.; Richardson, 49.4; Ransohoff, 50; Knaussold, 23; Krafft, 22; Porter, 9.5; Bryant, 11-17; Sahli, 20; Gage, 33.5. Some place the ratio much higher, others consider it less. Although these cases were taken collectively, and, therefore, do not refer specially to early life, they are yet important, owing to the fact that 15 per cent. of all cases occur between the first and fifteenth year. My own experience, however, leads me to believe that recurrences are less frequent in infancy and childhood than they are in later years, although the first involvement may lay the foundation for attacks which occur later. At all events, it is true that one attack predisposes to subsequent inflammation, whether this be occasioned by secondary constrictions of the caliber of the appendix or a contraction of the orifice itself, by adhesive bands, the presence of concretion, or any condition that will in any way interfere with the circulation, and, finally, by a resulting subacute inflammation that sooner or later becomes active. Occasionally we find a complete occlusion of the entire canal in the adult. While such is possible during early life, I have never seen a case recorded.

Constipation and Diarrhea.—Either of these alone probably plays little or no part in the production of appendicitis, but when associated with any of the above enumerated predisposing causes, the result may occasionally be an inflammation.

If the observations of Maicaigne be true, namely, that the bacillus coli communis found in diarrheal discharges is much more virulent than that found in the healthy bowel, diarrhea might then become a potent factor in the production of the disease.

Any inflammatory state of the membrane in this region may at times play a part in the causation of the disease, especially when the mucous coat at the door of communication is involved, as, owing to the devitalized condition of the structures, the epithelium lining with its basement membrane may undergo a destructive process, the repair of which results in the formation of cicatricial bands. These mild catarrhal inflammations may play a more important rôle in the etiology than we give them credit for, and the fact must not be lost sight of that the powers of absorption which the appendix possesses are greatly enhanced during early life on account of the abundance of lymphoid tissue: its power of resistance gradually diminishes as the retrograde metamorphoses advance—which retrogression may easily become pathological—and, therefore, when attacked, it must necessarily succumb to a gradual process of destruction on account of its lessened vitality, which destruction may be complete or otherwise.

Exposure.—Deaver notes three cases that are interesting: one caused by wet feet, a second due to a cold shower taken after a hot bath, and a third from being chilled shortly after taking a full meal. These are possibilities, but are so remote that few of us will ever be able to record such instances.

Typhoid and Tuberculosis.—Both are minor factors in the causation of the disease: the former more frequently than the latter, as the solitary glands are often the seat of ulceration, the healing process resulting in the formation of a stricture. Both are common occurrences post-mortem, but are seldom met with after operation for appendicitis.

Exciting Causes.—Micro-organisms are with[illegible] ht prime factors in the production of appen[illegible] may act independently, but the invasion is [illegible] ly secondary to a twist, kink, constriction, interference with circulation, the presence of a concretion or a foreign body or any irritating material, or condition that will bring about an action or virulent state of the bacillus coli communis, a natural inhabitant of the intestinal tract, which, under normal conditions, seems harmless. Welsh believes that the germ is innocent, so long as the integrity of the mucous membrane is maintained, but becomes pathogenic when the same is the seat of inflammation or of traumatism. Others disagree with this view, and Hodenpyl found numerous bacilli on the walls of the appendix without any lesion of the mucous membrane. This bacillus is without doubt a most important etiological factor in appendicitis, as Hodenpyl records its presence 34 out of 35 times; Hawkins, 57 times in 61 cases, and the experiences of many others have given like results.

Traumatism.—This occurs much less frequently than we are led to believe. It is of two kinds, direct and indirect; the former due to a pin or sharp foregn body that might enter the lumen of the appendix, causing an injury or abrasion of the mucous membrane, by penetrating a part of or the entire wall itself, while the latter is caused by violence directed through the abdominal wall. Instances of direct injury have often been recorded, and while it is possible for indirect violence to become an etiological factor, I feel positive that the appendix is already in a receptive state—from one or more of the predisposing causes mentioned—and, therefore, that the traumatism, while it may seem the active agent, is in all probability only a minor factor in the causation of appendicitis.

Foreign Bodies and Concretions.—Both, when they exist, can be credited with bringing about an inflammation. The former are introduced from without—seeds, gall-stones, pins, buttons, etc.—and may become a nucleus for the latter, which are always found in the appendix. Foreign bodies occur less frequently than is generally supposed and therefore do not play the important rôle with which they were formerly credited.

Concretions are of more frequent occurrence, and act first as irritants to the mucous membrane, producing catarrhal inflammation, facilitating the invasion by micro-organisms, and then by mechanical interference, either by occluding the lumen, acting as a ball valve at the opening itself or at the seat of a stricture, causing retention of secretion, with its consequent dilation and thinning of the walls of the organ, also by obstructing the circulation even so far as producing gangrene, and bringing about necrosis from pressure.

Actinomycosis.—Kelynack reports one case caused by this, Lange another; both, however, were in adults, and even here the instances are rare. The parasite has not been charged with producing appendicitis prior to the fifteenth year.

Although the case which I am about to relate does not come within the scope of my subject; it is a very interesting one and records the first attempt—successful or otherwise—to expel a fecal concretion by digital manipulation.

April 15 I was called to see a boy of 10 years, who for five or six days previous had suffered from constipation, nausea and general malaise. On the 13th, after an attempt to force a movement, he was taken with a slight pain about the region of the umbilicus, which continued at irregular intervals. The family noticed his condition, but did not attach any importance to it, and he was therefore permitted to take a horseback ride on the afternoon on the 14th. He returned in a short time, stating that the jolting increased his abdominal pain. After returning home he went to bed, and on the following morning visited Sunday-school, where he was seized with severe vomiting, the pain becoming so intense that he finally had an attack of syncope. I saw him a few hours later; he was on his side, with his thighs flexed, and stated that this was the most comfortable position; temperature was 101, pulse 114; he complained of continuous pain in the umbilical region, with rather frequent spasmodic seizures so severe as to cause him to cry out. The entire abdomen was found to be somewhat sensitive, but the tenderness was most marked in the right iliac fossa.

On careful digital examination the appendix was found in a perfect state of erection and in a somewhat unusual position, i. e., on the outer side of the gut, directed upward and outward toward the crest of the ilium. The abdominal wall was exceedingly thin, the muscles not very tense, and it was therefore exceptionally easy to make out the parts.

I judged that the appendix was about three inches in length, and about one inch from its distal end I discovered one small, but rather hard, concretion which I was able to dislodge and pressed toward the gut. A purgative was administered and an ice-bag applied.

April 16: Temperature, 101; pulse, 104; pain still present; tenderness in right iliac fossa more marked; appendix could be no longer made out distinctly. I suggested an operation, and while the father appreciated the condition, he preferred to wait till after my visit the following morning.

April 17: temperature, 99; pulse, 84; complained of no pain; tenderness still present, but greatly diminished. The appendix could be made out, but the concretion was no longer in evidence. The boy said he was perfectly well and complained of extreme hunger.

April 19 he was permitted to sit up, and passed out of my hands, as the parents considered a recurrence the main indication for an operation.

The expression of hardened fecal masses by digital manipulation, to my knowledge, has never before been referred to, and although the cases where this mode of procedure would be applicable must necessarily be few, yet I could not refrain from calling your attention to the manner in which this very satisfactory result was accomplished.

TRAUMATIC INSANITY.*

WITH REPORT OF A CASE.

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The absence of sufficient clinical, pathologic and histologic data often give rise to mooted medical questions. Any evidence brought to view, having the semblance of fact, is grasped with avidity as an addition to the fabric of truth. As long as a medical question remains undefined, open to all contributors, so long is there an opportunity for error to hold sway, and thus lend perpetuity to its obscurity. The truth-seeker, therefore, must still busy himself in combating the false and vagarious, and not permit them to foist and fix themselves upon that which is in most need of truth and clearness.

In the light of to-day's science, moral causes figure more lightly in the etiology of insanity, and more stress is being laid on such physical causes as heredity, degeneracy, the diseases causing malnutrition, infectious diseases and autointoxication. Surgery has been strongly suggesting the participation of pelvic diseases, postoperative influences and traumatism as causal factors. In this eagerness to explain much of the obscurity in the cause of insanity, injuries to the cranium have been given some prominence. Believing it to be one of the rarer causes, I wish to offer the following report of a case, with some added observations:

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Case.—F. B., male, age 39, native of United States, single, musician; no family or personal history obtainable, except that patient habitually used alcohol to excess; not epileptic, sleep irregular, but general health and appetite good. Regarding his mental condition, the physician making out his commitment papers said of him: "No evidence of mentality since January 29, 1898. On that date he was struck by a motor car and sustained a fracture at the base of the skull."

The following statement was given by Dr. T. C. Hoover, visiting physician to St. Francis Hospital, where the patient was taken immediately after his injury:

The patient and his brother were street musicians and were struck by an electric car. As a result of the injuries received, the brother, who was blind, died, and our patient was an inmate of St. Francis Hospital from January 29 until March 14, when he was brought to the Columbus State Hospital. When received at St. Francis Hospital he was in an unconscious condition, and remained so for about a week. During this week he developed ecchymoses about the eyes. He had no hemorrhage from the ears, but presented in other ways signs of fracture at the base of the skull. As he gradually regained consciousness and was able to speak, he showed evidence of mental disturbance, which was characterized more by a condition of dementia than by any active mental symptoms. Before he left the hospital he expressed delusions, especially concerning his brother, whom he would not believe was dead. At the time of leaving the hospital he was able to be up and to walk about, and to perform some of the feats to which he had been accustomed on the streets. On March 14 his mental condition had not changed. He remained demented and held to his delusions, and in this condition he was sent to the Columbus State Hospital. Aside from the mental symptoms described, there had been no symptoms of cerebral or meningeal disease.

At the Columbus State Hospital: From the date of admission he was in fair physical condition, ate and slept well, and the functions of all his organs appeared to be physiologic, excepting that he complained of severe and almost constant frontal headache and pain in the right ear, which was quite deaf, but at no time was there any discharge from the ears. His mental condition changed very little, however. It was characterized by extreme loss of memory for both old and recent events, a lack of appreciation of his surroundings—in short, a case of advanced dementia. About the first of August these symptoms became more marked, and three weeks later he developed fever, went rapidly into a comatose condition, had frequent and prolonged attacks of convulsions in which all the extremities were involved, and died on August 28. His temperature during the last few days was in the vicinity of 103 F.

Autopsy twelve hours after death: Well-nourished male, apparently 35 years old, rigor mortis marked, no special marks on body. Internal organs in normal position, no exudates or other foreign substances in the various cavities.

Lungs: Both have old adhesions at apices and posteriorly, are edematous, especially in lower lobes; no consolidation.

Heart: Marked hypertrophy of left ventricle, valves throughout in good condition, muscle rather soft and shows streaks of fat, especially plain on the papillary muscles.

Spleen: Slightly enlarged, capsule thickened and opaque, pulp soft, rich in blood, with stroma well marked.

Kidneys: Capsule adherent, tearing off kidney substance on removal; substance markedly yellow, in spite of the abundance of blood it contains.

Ureters and bladder show no change.

Liver: Large; weight, 1600 gm.; very light in color and soft; fatty, rich in blood.

Gall-bladder: Normal size; contains a quantity of light-colored bile.

Gall-ducts: Pervious.

Stomach and intestines present no abnormal conditions, nor does the pancreas.

The aorta, both at the arch and in the descending portion, is rough, with elevated yellow patches and calcareous patches, especially in the ascending portion of the arch.

Brain: Skull-cap thin; longitudinal sinus contains fluid blood; dura thick, opaque; vessels distended. Two large dark-red patches over the parietofrontal region of the right side, caused by comparatively recent hemorrhage confined between the dura, and a thick well-organized exudate extending on the inner side of the dura over both hemispheres. Under the pia-arachnoid is a large amount of yellow pus, enveloping the entire brain, especially thick over the base, and extending the entire length of the cord. The vessels of the pia engorged. Weight of brain, 1500 gm. Ventricles filled with the same kind of pus as that under the pia. Bacteriologic cultures made from this pus gave a pure culture of a short, thick, straight bacillus, which is also seen in the stained sections of the brain and cord, lying in the pus that fills the subpial spaces and the central canal of the cord. A slight scratch on our pathologist's finger, unnoticed at the time of the autopsy, caused a severe infection, accompanied with high fever and rapid enlargement of the axillary glands. Microscopic sections of the cortex and of the cord showed the blood-vessels to be unusually numerous, prominent and distended with blood, and a diffuse infiltration of round cells with well-stained nuclei.

On stripping off the dura from the floor of the cranial cavity, an old fracture of the left side of the occipital bone was disclosed, which had been faultily repaired. At the left posterior quadrant of the foramen magnum a lens-shaped piece of bone, 5 cm. long by 2.2 cm. wide, and slightly elevated above the surrounding parts, was broken loose, having been attached anteriorly by the narrow strip of bone lying between the posterior condyloid foramen and the margin of the foramen magnum, and attached posteriorly for a distance of 2.5 cm. where the fracture had completely united, leaving a curved line 3 cm. in length between these two points, ununited and open. This line of fracture crossed at a very acute angle the inferior curved line of the occipital bone, and ended in the median line, one-third of the distance from the inferior curved line to the occipital protuberance. Here it met with another very distinct line of fracture, extending from the posterior median edge of the foramen magnum, backward and upward, a middl of the occipital bone almost to its upp wh it made an abrupt curve to the left across the parietal bone, becoming less distinct, and finally being lost near the posterior edge of the temporal bone. This line of fracture, 16 cm. long, was united except for a distance of 2 cm. at its lower extremity, where there was a wide gap, with thick, well-rounded edges, forming part of the plane side of the before-mentioned lens-shaped piece of bone broken from the surrounding part. The bone about these lines of fracture was intensely injected. The dura was thickened over these parts, but shows no scars, nor were the sinuses involved.

Further preparation of the base of the skull showed other fractures. The apex of the petrous portion of the right temporal bone was cut off 3 cm. from its tip by a line of fracture which ran on the anterior aspect from the foramen spinosum upward and outward, crossing the superior ridge just internal to the eminence for the superior semicircular canal, then downward on the posterior aspect to the outer extremity of the foramen lacerum posterius. The articulation behind with the basilar process of the occipital bone, as well as the articulation in front with the great wing of the sphenoid, were both distinctly separated, and show evidences of the absorption of bone. The articulation of the left petrous portion with the basilar process of the occipital was also somewhat loosened.

The pathological findings in this case, then are: An extensive fracture of the base of the skull, a traumatic pachymeningitis hemorrhagica interna, with recent hemorrhages into the organized membrane, and an acute purulent meningo-encephalitis, all these superimposed upon a chronic alcohol poisoning, as shown by the arterial changes and the fatty degeneration of heart, liver and kidneys. Our explanation of the fracture is this: Severe mechanical violence, applied to left side of the occiput directly, caused the fracture of the left occipital bone. The strong bridge formed by the petrous portions of the two temporals and the basilar process of the occipital wedged in between them transmitted the force of the blow to the right side of the skull, where it expended itself in loosening the articulations with the occipital bone and in producing the transverse fracture of the petrous portion of the right temporal bone at its point of least resistance, and at the same time damaging the structure of the internal ear on that side. The avenue of infection of the subsequent purulent encephalitis was undoubtedly this last fracture, as there was no focus of suppuration elsewhere in the body from which infection might secondarily have taken place.

The sudden onset of the acute symptoms six months after the injury, and the character of the findings leave no doubt that the meningo-encephalitis was a terminal accident and had nothing to do with the causation of the insanity in this case. Alcohol as the predisposing cause, and the concussion of the brain and pressure of hemorrhage caused by the severe trauma—a motor car fracturing the base of the skull—as the direct exciting causes, present much more probable claims for recognition as etiological factors in this case.

I think the multiplicity of cause in insanity can be distinctly enunciated from common ground. From the same point of understanding, complexity of cause must be admitted. It is this complexity which makes it questionable whether we are justified in allowing singleness of cause in any given case. A number of preparatory conditions, if present, would explain the ease with which a single incident, like traumatism, might be a determining factor. These conditions may be:

1. The neurotic temperament; 2, hereditary predisposition to insanity; 3, acquired predisposition; 4, operation of some great moral stress.

Regarding the first, I can do no better than refer to Duret's well-known essay, "Sur les Traumatismes Cerebraux," to show how in the neurotic type injury might give emphasis to the nervous phenomena resulting from irritation to the dura mater. His conclusions are as follows:

1. That the dura mater is abundantly supplied by sensory nerves from the fifth pair, by anterior, middle, and posterior branches. He suggests the possibility of special terminal organs, which increase the delicacy of the sensibility of the membrane and account for the marked "physiological" troubles ensuing on their irritation.

2. That irritation of the dura mater, especially of its inner surface, causes pain.

3. That irritation of its nerves causes reflex movements in both voluntary and involuntary muscles, but not so local or definite as those caused by irritation of the cortex. They are not more localized than those caused by irritation of peripheral sensory nerves.

4. His cases of purposely-produced depressed fractures of the skull in animals showed all the reflex results, as of irritation of the dura mater, both on the same and on the opposite side; and not as of direct cortical irritation. He made this clear by finding, post-mortem, the cortex *uninjured*. If a *superfluous amount of violence* was used, the symptoms were rather those of cerebral commotion.

5. That the secondary contractures, which follow injury, are due to dura mater reflexes, appearing almost indiscriminately on the same and opposite sides.

6. That reflex vasomotor disturbances are also the result of irritation of the nerves of the dura, consisting in spasm or paralysis of cerebral and ocular vessels, and that light is thus shed on the causation of secondary effects of cerebral traumatism, through the agency of cerebral vascular conditions.

From these conclusions of Duret, it can readily be seen *that an injury producing such a degree of irritation* to the membranes as to cause spasms, contractures, and paralysis could also cause such an amount of disturbance to the integral cell elements of the cortex as to induce a condition of insanity.

In predisposition both by heredity and that acquired, as by the taking of some toxic, such as alcohol, it must be admitted we have a cell tissue of lessened potentiality to resist and to inhibit. With such an established condition of the cerebrum, the commotion caused by either a direct impact on the brain, or that brought about by the reflex effect of some more distal traumatism, might be sufficient to establish a positive pathologic state, associated with symptoms of insanity.

The fourth possible predisposing condition includes those who at the time of the receipt of a cranial injury are suffering from some great moral stress. The depression of the vital functions, incidental to a bereavement, a loss, or a disappointment, should not be discounted. While moral causes should be weighed with allowance, we are forced to note their inhibiting effect upon the heart's action, as well as that upon the secretory functions. How this in turn harasses the whole digestive tract, and blocks the assimilation! Every organ of the body suffers from want of proper nutrition. The brain is among the earliest to succumb. Must we not grant that an impoverished brain is a most susceptible organ; and that an injury, though slight, under such conditions might prove a source of mental disturbance. The conclusion we can reasonably draw is that an injury to the cranium, received upon such a basis of predisposing conditions as above enumerated, should not be estimated as the cause itself, but as the final determining factor of the mental disorder consequent to it. The causes of insanity are so complex that I doubt if we are justified in saying that injury is a cause in itself.

Kiernan estimated that in 45 of the 2200 patients under his care, the disease was due to traumatism. Hay found 60 cases in 2500. Starr, in "Brain Surgery," says that 2 per cent. is a fair estimate. Clouston ascribes a few cases of insanity to blows on the head, falls, and other traumatic injuries to the brain. He says, "We have had twelve cases of traumatic insanity and the insanity of sunstroke sent to the Royal Edinburgh Asylum in the past nine years, which is only .33 per cent. of the admissions." Krafft-Ebing says traumatism is a common factor in the cause of insanity, and yet found but 1 per cent. out of 462 cases. It is doubtful if experience and close observation will bear out the truth of the statement as to its being a common factor. I find in the Columbus State Hospital, with 1400 patients, 10 cases, or .7 per cent., which might be regarded with some certainty as due to traumatism of the brain.

The question of interval of time between the occurrence of the injury and the insanity should be carefully considered. Dr. J. Christian[1], analyzing 100 cases of traumatic insanity, finds in 54 cases the interval was from 1 to 5 years; in 21 from 5 to 10, in 11 from 10 to 20, in 7 from 20 to 30, and in 7 more than 30 years.

In the ten cases in the Columbus State Hospital, the time between the injury and the initial symptoms of insanity varied from the time of the injury to fifteen years, often with no other evidence that the injury was a causal factor than that the mental disease followed it in time.

Two other considerations are now to be borne in mind: 1, the kind of an instrument producing the blow, and the kind of an injury received from a fall; 2, whether these agents produce a localized or a diffused effect.

From the analysis of twelve cases in the American War of the Rebellion, locality of injury is an important point.

In 3 cases the middle, in 4 the anterior, in 1 the posterior fossa was affected; in one case the anterior and posterior fossæ, in 1 the middle and posterior fossæ, in 2 cases the anterior and middle fossæ were affected.

From this it appears that injury to the base of the skull is most prone to yield subequent mental disturbance, and that the middle fossa is more frequently involved than the other parts.

SUMMARY.

1. Conditions already present may predispose to the causing of insanity by an injury.
2. The insanity should speedily follow the injury.
3. The extent of the concussion may be a determining factor.
4. The locality on the cranium may be an important consideration.

DISCUSSION.

Dr. Hough—It is the fortune of the general practitioner to see not infrequently cases of injuries to the head, which, while not making the sufferer necessarily an inmate of an insane asylum, to a certain extent incapacitate him for the subsequent following of his occupation. A typical instance is a carpenter of middle age who was struck by an electric car, producing fractures of the skull. He recovered from his injuries; there was no paralysis at the time, but a year afterward he came to see me, and told me—and his wife corroborated his assertion—that his memory was seriously impaired; that there was a certain amount of difficulty in using the left arm, and that he had been unable to do any work since the accident. That class of permanent result from head injuries is by no means uncommon.

Dr. Richard Dewey, Wauwatosa, Wis.—I was struck, while listening to the paper, with one fact which has arrested my attention before in traumatic cases; that was the association of alcoholic excesses. In a considerable number of my cases excess in alcohol was closely associated with the insanity or with injuries of the brain in some cases not associated with insanity, so much so that it has been questioned whether, without the added element of alcoholism, the condition of insanity would have developed. The fact that there are many cases in which very severe injuries of the head are recovered from without serious results, without insanity developing seems to indicate that this may be the case.

Dr. G. W. McCaskey, Fort Wayne, Ind.—I wish to refer to one case that came under my observation three or four years ago. The patient was examined with a view to securing a pension. During the Civil War he was in action and was supposed to have been killed. He was evidently left comatose upon the field. He disappeared and was not found for several years. During all this time he had forgotten his own identity. After four or five years he regained consciousness of his own identity. During this time, so far as could be traced, there was no great amount of aberration in performing the menial duties which he assumed. Very suddenly his identity returned to him, and he came home. The case was interesting to me because of the sudden loss of consciousness of his identity and its sudden return. Careful examination of the head showed no external sign of injury whatever, and I presume there was nothing more than concussion, although there may have been a fracture of the inner table.

Dr. T. J. Happel, Trenton, Tenn.—I am surprised at the statement that there are so few such cases. Within the last few months I have come in contact with three; one case in which trephining was done to relieve a weak-minded condition, which was the result of an injury. I know a man in active business, with an irritable mental condition, owing to cranial injury; and during the last few months I saw a man who had a history of having been struck with an iron on the head during the late war, and was recently again struck with a stick on the head and at once developed acute mania.

Dr. Drayton, New York—It is indeed fortunate that there are so few instances in which the results are serious. When we consider the free use of the club in some of our cities by those who are supposed to be authorized to use their batons of office, we can congratulate ourselves that in nearly all of these cases of severe injuries to the head there is prompt recovery. I can recall two or three instances in which there was very marked insanity of the acute order for several months. I gave a happy prognosis to those interested in the victims, and that prognosis was verified by a subsidence of the symptoms and the return of the individuals to their vocations and former ways of life. I therefore say that society should be congratulated on the very happy treatment by nature of these cases, and that we have so very few instances in which the results are chronic. Nevertheless, I am far from advocating a policy in the management of municipal affairs that is indifferent to the manner in which the policeman employs his club.

Dr. E. T. Carpenter—The fact of the case becoming insane by an accident, and being speedily operated on, does not argue that the case would have recovered without the operation, and at the same time does not argue really that the accident was the direct cause of the condition, notwithstanding I say in my conclusions that the insanity may occur speedily after the injury. The location of the injury has something to do with causing the insanity. I have a table of the cases during the War of the Rebellion which shows that injuries to the base of the skull are most apt to result in mental disturbances.

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1. Arch. de Neurologie, viii.

MEASUREMENTS OF CHICAGO SCHOOL CHILDREN.*

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CHICAGO.

For the past year measurements of children in the Chicago public schools have been made under my direction. The work was started March 6, 1899, and continued throughout the remainder of the school year with Mr. F. W. Smedley and Mr. C. Victor Campbell as operators. This corps was increased in September by the addition of Messrs. Donald P. McMillan and C. C. Krauskopf as paid assistants, and Miss A. Loesch as a voluntary assistant. Mr. F. W. Smedley, who heads the corps, had been engaged for a number of years in laboratory work in physiological psychology in the University of Chicago, previous to his appointment for this duty by the Board of Education of Chicago. He is a man of large experience, thoroughly scientific, and eminently qualified for the work. The remaining assistants were appointed after competitive examination; of these, Mr. McMillan and Miss Loesch had also previously had extensive experience in laboratory psychology, and Messrs. Campbell and Krauskopf were teachers of ability and standing. From the personnel of the corps of observers, I am justified in claiming for the results an unusually high degree of accuracy. My own part in the matter has consisted in determining the observations to be made, watching the work, and later, in discussing the results in conjunction with Mr. Smedley.

Last year the work included only the determination of the following points, with each pupil: Height; height sitting; weight; ergograph work; strength of grip, right and left; hearing, right and left; "vital capacity." The observations were limited to these few points in order that as large a number of pupils as possible could be examined. In all, about 1200 pupils were examined from March to June, inclusive, and the results obtained were so encouraging that the Board of Education agreed to continue the work and established as a permanent part of the school system a department of "Child-Study and Pedagogic Investigation," and appointed Mr. Smedley as director of the department. I believe this is the first instance of a municipal board appropriating money for research work, a fact which redounds greatly to its credit. During the present school year the same observations have been continued, in order to obtain sufficient number of observations to establish reliable norms; the total number now, April 22, 1900, amounting to 5636. In addition to these observations, sight tests have been made. Acuity of vision has been determined by Snellen's cards, and examinations have been made as to color-blindness. In addition to this, obvious developmental defects have been noted, and signs of fatigue and nerve-strain recorded.

DESCRIPTION OF INSTRUMENTS AND METHODS.

In measuring height, and height sitting, a stadiometer of the Bertillon pattern has been used. In taking heights, the height of the heels has been accurately calipered and subtracted from the gross height, giving a net height, which was found on trial never to differ from the height measured in stocking feet more than 2 millimeters, and to present an average error of about 1 millimeter.

The weights were taken with ordinary schoolroom clothing. Last year 121 children brought back their clothing to be weighed. This was in the latter part of the month of May, 1899, and it was found that the clothing ranged in weight between 2.8 and 8.2 per cent. of the gross weight of the child. The average weight of boys' clothing was 5.8 per cent. of the entire weight, and of girls' clothing was 5.5 per cent. of the gross weight of the individual. The clothing in the great majority of the cases ranged between 4 and 7 per cent. of the gross weight.

Strength of grip was measured until recently, by an ordinary two-spring dynamometer, graded in kilograms This dynamometer was tested from time to time to insure its accuracy. Lately an adjustable dynamometer, invented by Mr. Smedley, has been employed. This dynamometer is adjusted to the size of the hand. Each pupil is given several trials of strength, and the best result obtainable is recorded.

The old term "vital capacity" is employed to designate the amount of air which can be forcibly expired. Two wet spirometers were employed, one made especially for this work and one purchased from the Narraganset Machine Company. As neither differs materially from the ordinary wet spirometers, a detailed description seems unnecessary. In using the spirometer each child tested was given several trials, and the best obtainable result recorded.

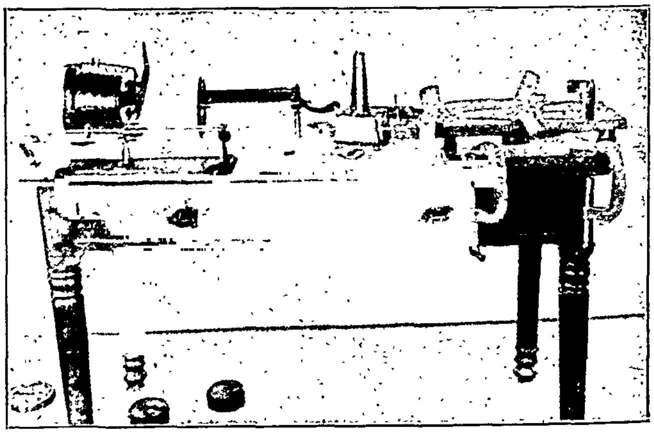

Fig. 1.—Ergograph.

Hearing was tested with the audiometer invented by Prof. C. E. Seashore, of the Iowa State University. This is an electric apparatus in which the loudness of the sound produced is definitely determined by resistance-coils. It is graduated by an arbitrary scale ranging from 0 to 40. The normal point on the instrument used seems to be about 11. Numbers above this represent degrees of difficulty of hearing, while lower numbers indicate special acuteness of hearing. I am not yet ready to present the results of the tests on hearing.

Fatigue and endurance were tested with the ergograph shown in Fig. 1. The instrument employed was Mosso's ergograph, modified by Mr. F. W. Smedley.

DESCRIPTION OF ERGOGRAPH.

The apparatus consists of two parts, a fixing board, and a traveler mounted on a suitable frame. The forearm is placed on the fixing board in the prone position, and held in place by suitable straps and clamps. There are also clamps to hold down the index and third fingers, leaving the middle finger free. It is the design of the apparatus to hold the forearm so firmly in position that only the flexors of the middle finger can be brought into action. This it does not accomplish perfectly, but as the error is common to all those examined, the influence of the error is practically eliminated in comparative results. From the traveler two cords extend, one toward the fixing board, carrying a clamp to attach it to the free middle finger of the subject examined; the other, extending in the opposite direction over a pulley, is provided with a device for holding weights. Attached to the traveler and extending laterally, is an arm which carries a pen, which, in its turn, bears upon the surface of the drum of a kymograph. Attached to the side of the frame is an endless tape, which is carried forward with each return movement of the traveler, and thus sums up the total height which the weight is lifted. The ergograph was operated in the following manner: The child's forearm being clamped in position, the cord from the traveler was clamped to its middle finger, and the pulley-cord loaded with a weight equal to 7 per cent. of the weight of the child. On flexing the finger the weight was lifted, and the pen made a corresponding mark upon the kymograph. On extending the finger the traveler dropped back to its original position, the measuring tape was advanced a distance equal to the height the weight had been raised, and the return stroke on the kymograph was made. By the aid of a metronome these flexions and extensions of the finger were made each second, so that in ninety seconds, the time employed in each experiment, the weight should be lifted forty-five times. The actual number of lifts, however, varied occasionally from this number, reaching forty-eight or forty-nine in some instances, and not quite equaling forty-five in others. In all cases, however, the work was continued for ninety seconds, and the amount of work done in centimeter-kilograms recorded. In the case of very obese pupils it is to be noted that 7 per cent. of the total weight, including as it did 7 per cent. of the weight of the fat, as well as 7 per cent. of the weight of the active tissues of the body, proved to be excessive, and they were unable to continue to move the weight throughout the whole period of ninety seconds. Nevertheless the actual work done came out in centimeter-kilograms, and was suitable for comparisons.

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* Read before the American Pediatric Society, Washington, D. C., May 3, 1900.

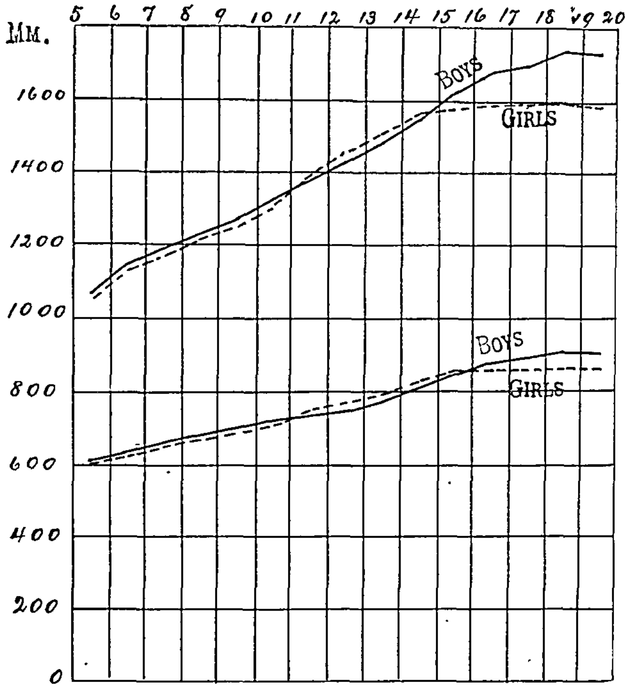

Fig. 2.—Growth in Height—Standing and Sitting.

Note.—The stature of girls is less than that of boys up to the age of 11, when the girls surpass the boys and remain greater in stature up to the age of 14. After 14 girls advance in stature very slowly and very slightly, while boys continue to increase until 18. This fact is in harmony with the common observation of the earlier occurrence of puberty, with its greater activity, in girls than in boys. The lower lines representing height sitting, show that in this measurement girls also surpass boys at the same age, as in stature. But they maintain this superiority in this measurement for one year longer than they do in stature, which means that the more rapid growth of the boy at this age is in the lower extremities rather than in the trunk.

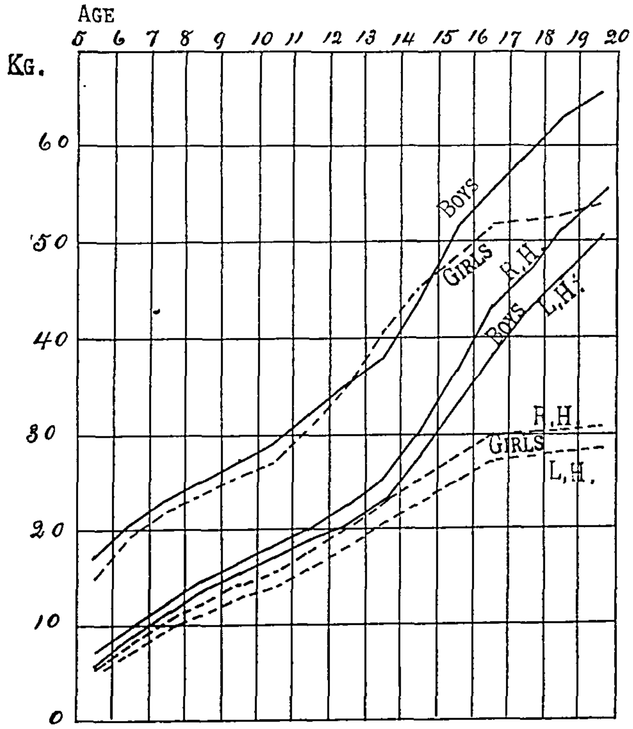

Fig. 3.—Weight and Grip.

The upper lines show the weight-curves of boys and girls. On comparison with Fig. 2 it is seen that the weight of the girl surpasses the weight of the boy, something over a year later than her stature surpasses his; and the curves recross at the same age in weight and height, so that the girl holds her superiority in weight over the boy for a shorter period than her superiority in stature. The curves also show that while the stature of girls increases very slowly after 14, the weight continues to increase rapidly to 16 and less rapidly thereafter. The grip-curves shown also in this figure indicate marked increase in the rate of gain in grip in boys commencing at the age of puberty—a gain which continues, at least as far as our own observations go. In girls, no such acceleration in muscular strength at puberty is shown, and after 16, practically no increase in strength of grip occurs. This chart, therefore, exhibits the period of life at which, and the extent to which, the well-known muscular differentiation of the sexes occurs.

From these measurements a table of norms has been computed. In these tables, the ages refer to the age at the last birthday. The number of each age examined is also given. In accordance with the general practice, the norms are expressed in medians instead of averages. In other portions of this work where small numbers are dealt with, averages are employed in the belief that they are more correct with small numbers. These tables of norms are based upon the examination of 5636 children, 2537 boys and 3099 girls, which include all examined to April 22, 1900. They consist of the pupils in the Alcott, Kozminski, Andersen and Tennyson grammar schools, together with the eighth grade and kindergarten pupils in the Hoyne school, the kindergarten pupils in the Burr school, and also the pupils in the Lake View High School, and about half the pupils in the Englewood High School, at which latter school the work of examination is now going on. In all of these schools, with the possible exception of the Andersen school, the pupils are largely of American parentage, *and are the children of parents in comfortable circumstances* and are uniformly well fed and well clothed. They therefore may be taken to represent normal American children *in comfortable circumstances.* The children at the Andersen school, about 1600 in number, are less favorably situated, and the medians obtained from that school alone, are, as a rule, less than those from the other schools. In the medians given in the tables all of the schools mentioned are included.

TABLE 1. NORMS FOR BOYS.

Age.	Number examined.	Height. mm.	Height Sitting. mm.	Weight. kg.	Work. cm. kg.	Grip. R. kg.	Grip. L. kg.	Vital Capacity. c.c.
6.	224	1134	636	20,550	103.8	10	9.5	1100
7.	230	1190	658	22,550	135.9	11·5	11	1250
8.	225	1231	675	24,550	169.1	13	12	1350
9.	228	1283	699	27,513	201 6	16	15	1550
10.	255	1328	714	29,600	233.1	18	17	1625
11.	228	1372	728	32,213	259 6	20	19	1800
12.	255	1419	747	35,400	302.4	22	20	1950
13.	230	1476	770	38,688	315 8	25	23	2200
14.	234	1515	805	44,150	406.2	30	28	2500
15.	176	1620	839	51,113	521.4	36	33	2825
16.	122	1678	881	55,838	578.9	43	38	3375
17.	78	1684	897	59,175	649 6	46	43	3550
18.	26	1742	920	63,400	715 6	51	46 5	3600
19.	20	1733	918	66.000	705 2	54 5	52	3850
20.	6	1709	906	68,050	809 1	58.5	49	3500

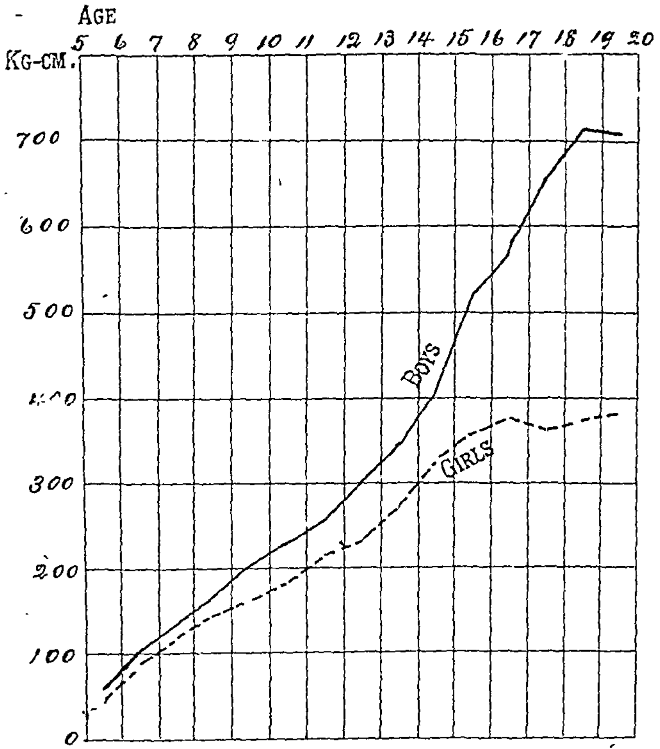

Fig. 4.—Ergographic Records.

Ergographic work is an index of general endurance. The chart shows that up to the age of 14 the girls' power is a fairly constant percentage of the boys'. From 14 years on the girls' endurance remains practically stationary, while that of the boys not only continues to increase, but increases at even a greater rate than it had previously.

The accompanying charts, Figs. 2, 3, 4 and 5, illustrate graphically the facts given in the foregoing table of norms.

ERGOGRAPHIC WORK.

The ergograph gives two kinds of information concerning the individual tested. 1. It shows the amount of energy which the individual exerts in a fixed time, and under fixed conditions. This energy may be, and in this work is, expressed in centimeter-kilograms, which affords a means of comparing the ergographic work of different individuals. 2. The ergographic tracing, or ergogram, made coincidentally on the kymograph, exhibits the manner in which this energy has been exerted.

In operating the ergograph, as previously described, loaded with 7 per cent. of the gross weight of the individual, it was found that some time between 90 and 150 seconds of work, such fatigue was produced as to render it impossible to move the weight at all. After working the ergograph to complete exhaustion, the flexors involved remained sore for several days. Inasmuch as it would be unwise to submit large numbers of school children to such inconvenience the limit of ninety seconds of work was adopted. In this limit the strongest pupils would begin to show fatigue, and very obese pupils would become completely exhausted before the time had expired. With kindergarten pupils, the ergograph can not be used, and, indeed, it can hardly be considered reliable with children under 7 years. At this age and above, however, *its use is very satisfactory.*

TABLE 2. NORMS FOR GIRLS.

Age.	Number examined.	Height. mm.	Height sitting. mm.	Weight. kg.	Work. cm. kg.	Grip. R. kg.	Grip. L. kg.	Vital Capacity. c.c.
6.	203	1127	626	19,900	93	9.3	8.5	1000
7.	238	1180	655	21,850	114	10.5	10	1100
8.	232	1231	674	23,913	141.8	11.5	11	1200
9.	221	1276	690	26,300	168.6	14	13	1350
10.	240	1321	709	28,488	182.7	15	14	1450
11.	225	1383	736	31,225	218.4	18	16	1600
12.	248	1441	762	35,725	237	20	18	1700
13.	256	1522	798	40,700	277.8	23	21	1900
14.	278	1563	830	46,312	336	26	22	2063
15.	328	1571	841	48,925	349 2	28	25	2225
16.	284	1596	849	51,988	374 6	30	27	2300
17.	198	1597	850	51,838	358.8	30	27	2300
18.	105	1600	863	52,675	368	30	28	2350
19.	30	1595	851	53,788	376 9	31	28.5	2400
20.	13	1581	834	49,175	352·8	29.3	25.5	2300

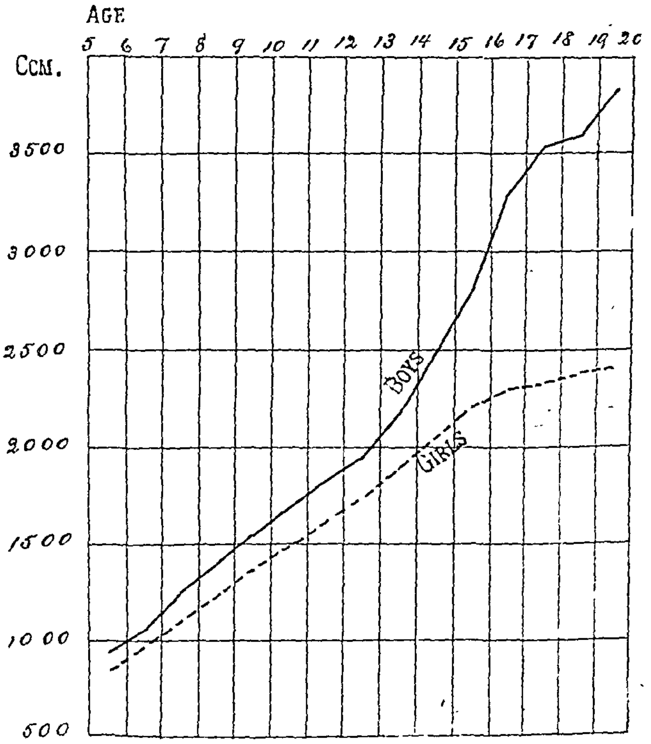

Fig. 5.—Vital Capacity.

The term "vital capacity" is here used in its old sense of volume of air emitted in forced expiration. The curves in Figs. 4 and 5 appear on comparison to be almost duplicates of each other, indicating a remarkably close relationship between "vital capacity" and endurance as shown by the ergograph. Which of these is cause and which effect, I have no means of determining.

The normal ergographic work at the different ages is illustrated graphically in Fig. 4.

On examining this chart, it is seen that at all ages girls exhibit less endurance than boys, but that up to the age of 14 the girls' power is a fairly constant percentage of the boys'. After 14, however, a marked change occurs. From 14 years on, the girls' endurance remains practically stationary, while that of the boys not only continues to increase, but even increases at a greater rate than it had previously.

Such a fact seems of prime importance. It must have some bearing on the development of the growing girl, and especially on the development of the reproductive organs. It is a factor which ought also to be taken into account in school work.

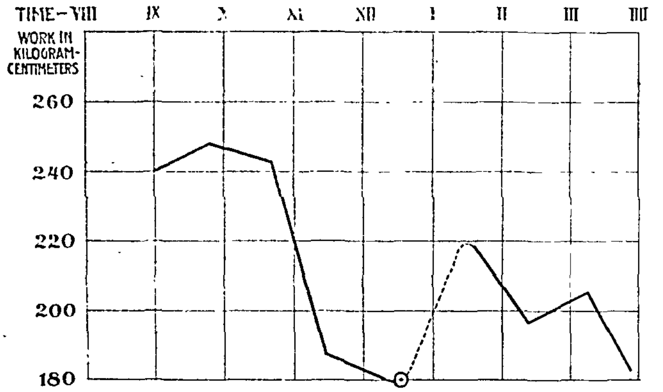

Fig. 6.—Course of power throughout the school day, as determined by the ergographic records made by R. H.

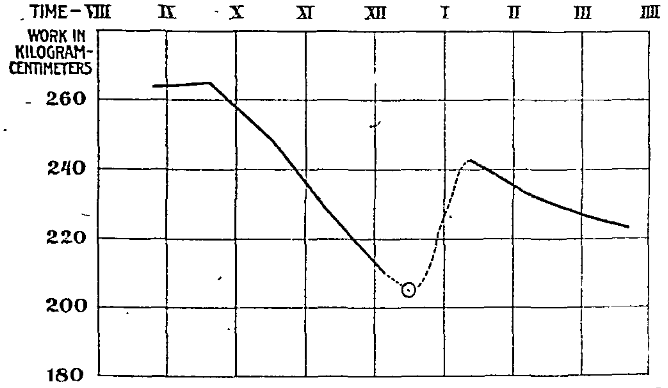

Fig. 7.—Course of power throughout a school day as determined by the average ergographic records of eight pupils of the Alcott School.

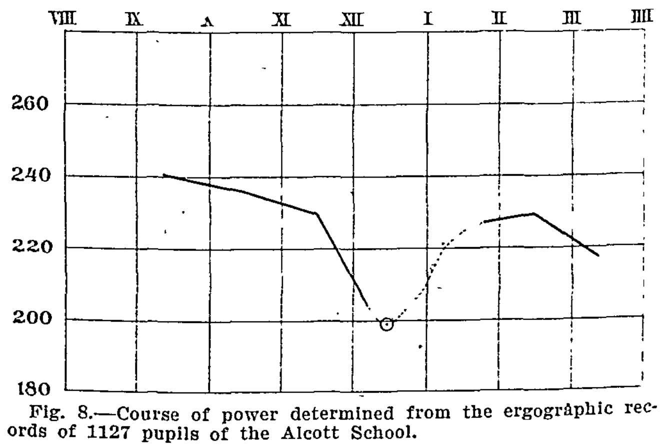

Fig. 8.—Course of power determined from the ergographic records of 1127 pupils of the Alcott School.

In determining the variation in the course of power during the day, observations were made on one individual at the Alcott school, at intervals of about forty minutes, and also on eight pupils at about the same intervals the latter results being grouped and averaged. In addition, the results by hours of the whole school, obtained through the three months of examination, were charted. In examining the school, all the children in one room were taken one at a time until all had been taken, and inasmuch as not more than twenty could be examined in the course of a school day, children of all ages were found very evenly distributed throughout all the hours of the school day. The results obtained are shown in the accompanying charts, the resemblance of which to each other is certainly striking. (Figs. 6, 7 and 8.)

Fig. 6 shows the course of power during the day of the single pupil, R. H. Fig. 7 shows the course of power during the day of the eight pupils. Fig. 8 shows the course of power during the day of all the pupils in the Alcott school. At the time these observations were made the pupils of this school did not have the usual morning recess.

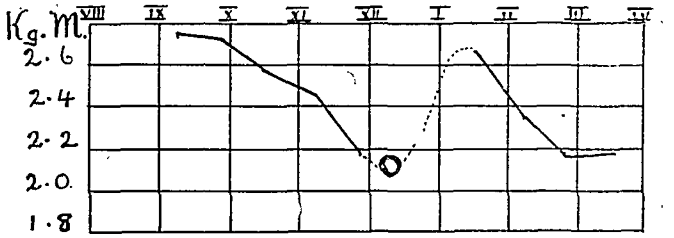

Fig. 9.—Course of Power during the day—Tennyson School—of all the pupils tested.

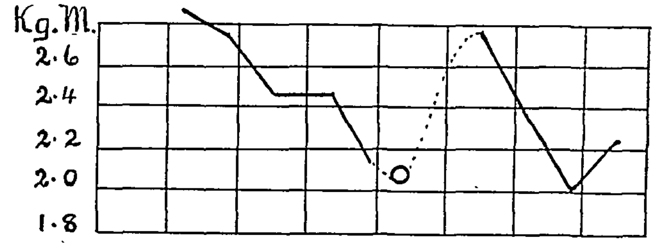

Fig. 10.—Of those Irregular in their Work.

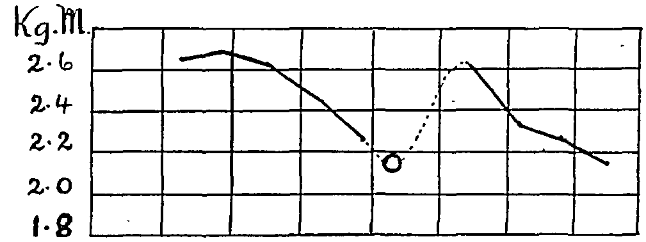

Fig. 11.—Of those Doing Regular Work.

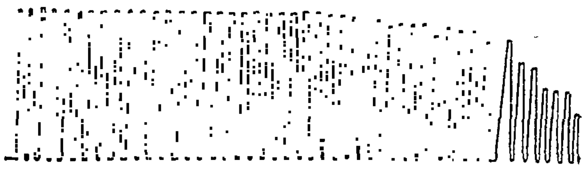

Fig. 12.—2:00 p.m. 3.7 kg. 150 cm. 46 lifts.

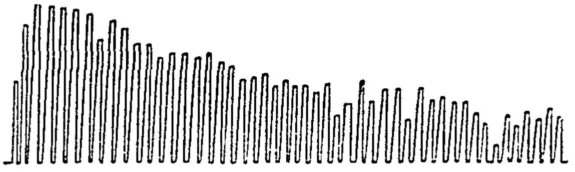

Fig. 13.—2:20 p.m. 3.9 kg. 92 cm. 49 lifts.

The charts show that the child is at its best during the first morning hour, and that after 10 a. m. its power decreases somewhat rapidly. They also show that in the afternoon the power does not reach the maximum shown in the morning, but it is better maintained, the curve not decreasing so rapidly.

An interesting confirmation of this matter was unexpectedly obtained at the Tennyson school. At that school it was decided to take the course of power, during the day, of twelve pupils. In the case of four of them, the results did not tally at all with previous experience, these four showing unusual power in the afternoon. Upon investigation it was found that the teacher of these four had been called from school in the afternoon, and that they had had no work, but had employed themselves, as they said, in having a good time.

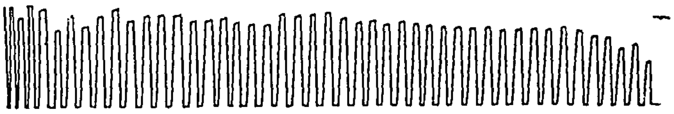

Fig. 14.—9:00. 80 cm.

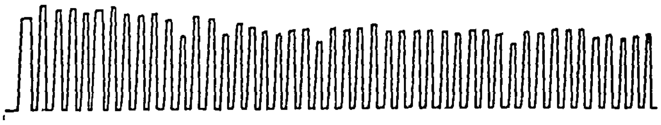

Fig. 15.—9:47. 83 cm.

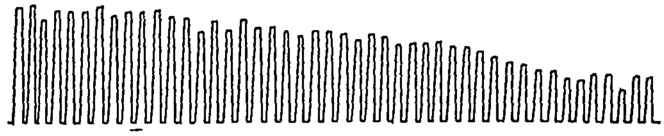

Fig. 16.—10:40. 81 cm.

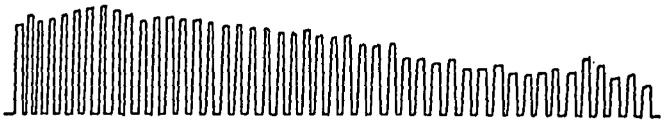

Fig. 17.—11:30. 63 cm.

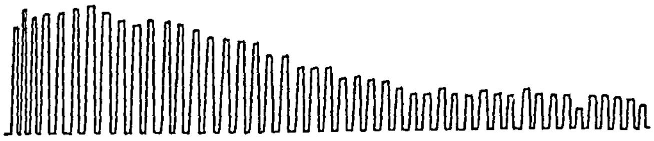

Fig. 18.—12:18. 60 cm.

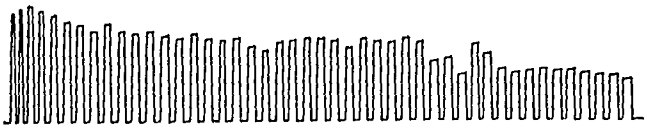

Fig. 19.—1:34. 73 cm.

The charts illustrating these facts are shown in Figs. 9, 10, and 11.

The ergogram, illustrating the manner in which the energy is exerted, often gives most interesting information. In Fig. 12 is shown an ergogram produced by a robust man, whose muscles are well controlled, and whose strength is good. In Fig. 13 is shown the ergogram of a so-called "nervous" child, one whose inhibition is defective and whose efferent nerve impulses are erratic. The want of muscular control is shown by the irregularity in the heights of the lifts, the uneven spacing, and the excessive number of lifts, showing the failure to keep time with the metronome. The ergograms of R. H., whose course of power throughout the day is shown in Fig. 6, are given in Figs. 14-22, inclusive. With each ergogram is given the time at which it was taken, and also the total height the weight was lifted. Fig. 23 shows the best woman's record. Fig. 24 shows best boy's record for height lifted. Fig. 25 is the ergogram of a sprinter. This ergogram, which is unusually strong at the beginning, shows sudden dropping off, with complete exhaustion at the end of thirty-four lifts, or seventy-eight seconds. This boy, 18 years old, says he runs distances up to 300 yards, but can not run 330 yards. Fig. 26 is one of especial interest to medical men. It was made by a girl, aged 14, who was suffering from chorea. The tracing is certainly typically choreic in its irregularities, but the great interest lies in the exhibition of endurance. The work was continued for three full minutes without any evidence of approaching exhaustion. It was stopped at this point because the end of the paper on the kymograph had been reached. The output of energy is enormous.

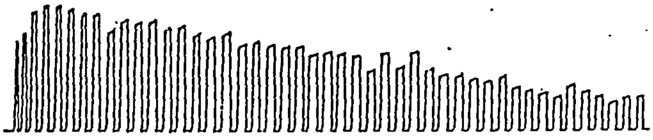

Fig. 20.—2:20. 66 cm.

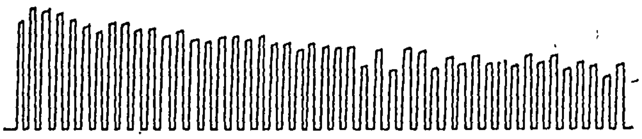

Fig. 21.—3:13. 69 cm.

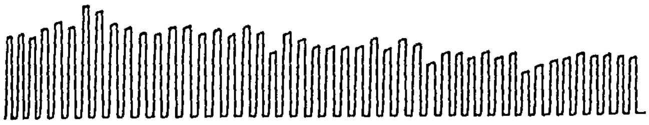

Fig. 22.—3:55. 61 cm.

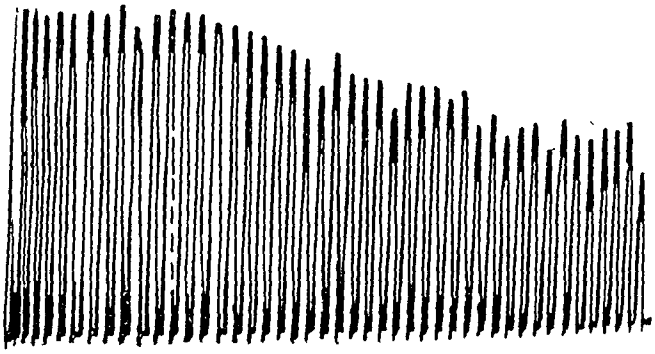

Fig. 23.—Best Woman's Record. Age 17. Plays piano very little. 2:30 p.m. 3.7 kg. 231 cm. 44 lifts.

From *La Fatigue Intellectuelle*, by Binet and Henri, I take Figs. 27 and 28. Fig. 27 shows four ergograms taken by Mosso from Dr. Maggiora, professor of hygiene in the University of Turin. The weight used was 2 kilograms. What relation it bore to the weight of Prof. Maggiora is not stated. The first of these tracings was taken while Maggiora was in a state of rest and before holding an examination. This examination commenced at 2 p. m., lasted three and one-half hours, and was very trying; besides the labor of the examination, there was also the "emotion of feeling the responsibility of his own teaching in the presence of competent colleagues, who assisted as members of the examining commission and who were capable of judging him." The second tracing was made at 5:45 p. m.; the third at 7:30 p. m., and the fourth at 9 p. m. The last three indicate very slow recuperation. In Fig. 28 are shown three ergograms made by the left hand of Maggiora on the same occasion, the weight used being 500 grams. The first of these was taken at 9 a. m., the second at 5:30 p. m., and the third at 7 p. m. The two experiments, however, differ in a very important particular. The tracings shown in Fig. 27 are voluntary tracings, presumably made with the right hand, although that fact is not specifically stated in the only account of the matter at my disposal. The tracings of Fig. 28, however, were not made voluntarily, but instead the muscles were excited to action by electricity. The marked similarity in the curves indicates that the fatigue is not entirely central. Kraepelin and Hoch[1] have arrived at the conclusion that the height of the individual lifts in the ergogram depends on the state of the muscles, while the number of the lifts depends on the state of the central nervous system. Important as is this part of the subject, I can not occupy your time with it further, but must proceed to another phase of my work.

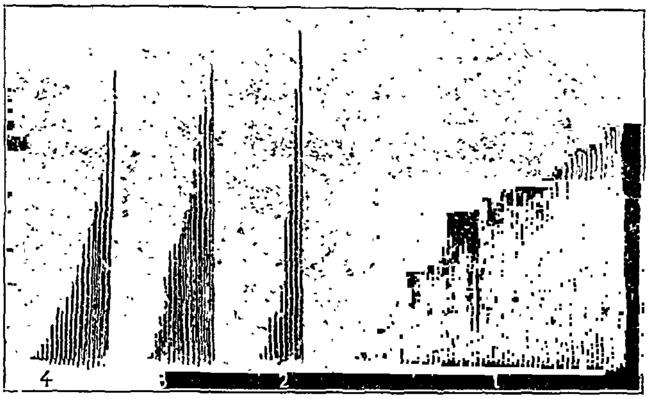

Fig. 27.—Ergograms of Maggiora—Voluntary.

Fig. 27 illustrates ergographic tracings taken by Mosso from Professor Maggiora, of Turin. Tracing No. 1 was made with the right hand while in a state of rest before conducting an examination. Tracing No. 2 was made 15 minutes after the conclusion of the examination; tracing No. 3, two hours after the examination, and tracing No. 4, three and one-half hours after the examination. The last three tracings indicate the intense fatigue produced by the work, and slow recuperation. The greater height to which the weight is lifted in this tracing indicates apparently less nervous control during the fatigued state.

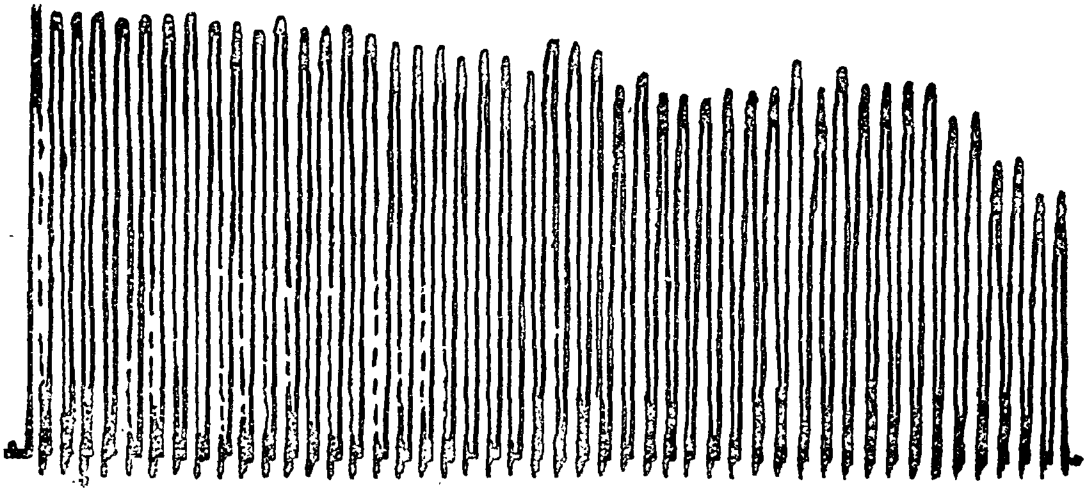

Fig. 24.—Best Record for Boys, for Height Lifted. Age 18. 9:55 a.m. 3.7 kg. 266 cm. 47 lifts.

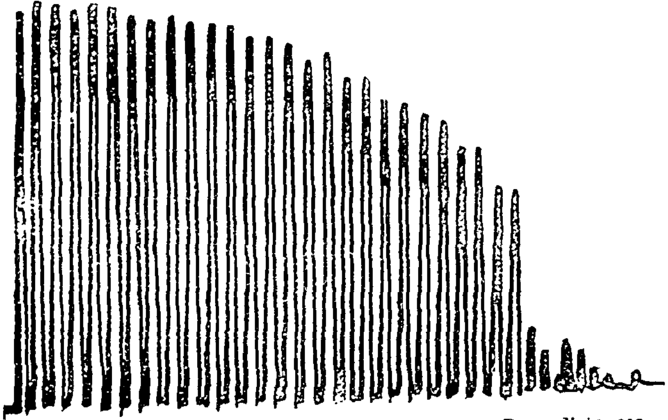

Fig. 25.—Ergogram of a sprinter—18 years old. Runs distances up to 300 yards. Said he could not run 330 yards. 2:45 p.m. 4.8 kg. 114 cm. 34 lifts.

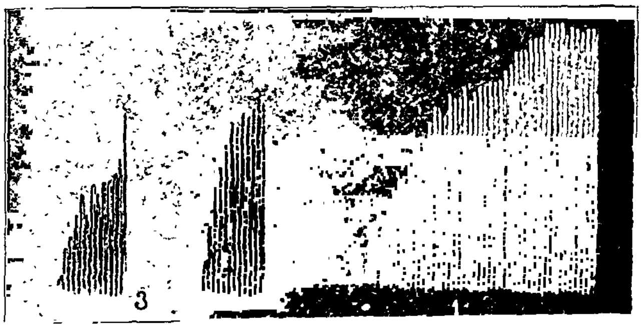

Fig. 28. Ergograms of Maggiora—Electric Stimulation.

Fig. 28 illustrates ergograms of Professor Maggiora made with the left hand upon the same occasion as shown in Fig. 27. In this experiment electrical stimulation was substituted for voluntary action.

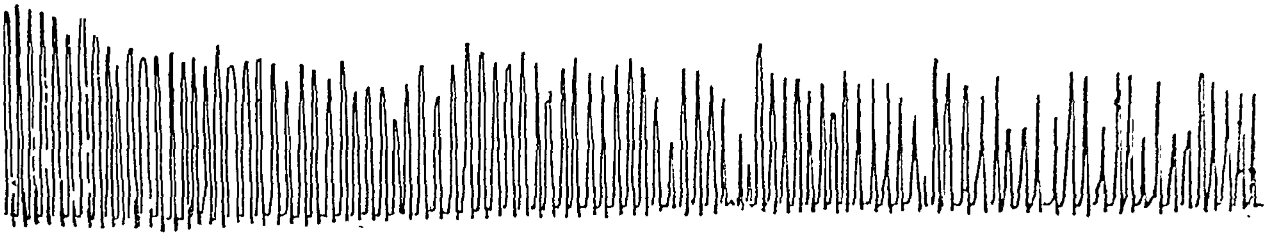

Fig. 26.—Kitty S. Age 14. Chorea. 2:00 p. m. 2.6 kg. 3 min. 94 lifts.

(To be continued.)

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[1] Psychologische Arbeiten, i, 1896. Binet and Henri, loc. cit., p. 187.

EXOPHTHALMIC GOITER.*

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CORTLAND, N.Y.

This is one of those puzzling and tantalizing diseases which will baffle a full explanation. All disease is mysterious, but we are beginning to feel that the pathology if not the treatment of diphtheria, Bright's disease, or tuberculosis is somewhat satisfactory. Many diseases of the nervous system have a beautifully exact anatomical lesion. But exophthalmic goiter, one of the most striking entities of them all, is most elusive.

The symptoms are fairly definite and yet I believe that the disease often remains unrecognized. This is so for the reason that one or more of the main symptoms may be absent or slightly in evidence. The rapid pulse is the most constant and easily detected. A pulse above one hundred, when the patient is not excited or under exertion, should arouse suspicion of this disease. Still, this marked symptom is absent in a certain percentage of cases.

The enlarged thyroid, which gives its name to the disease, if looked for carefully by deep palpation, is present in probably 90 per cent. of all cases. It is not generally so large as in simple goiter, nor so hard. It more resembles a vascular fullness. Sometimes a patient will present herself complaining most of the large neck, but very often this member of the tripod of symptoms must be searched for. This is especially so since from 95 to 97 per cent. of the cases occur in women. One side is frequently decidedly larger than the other.

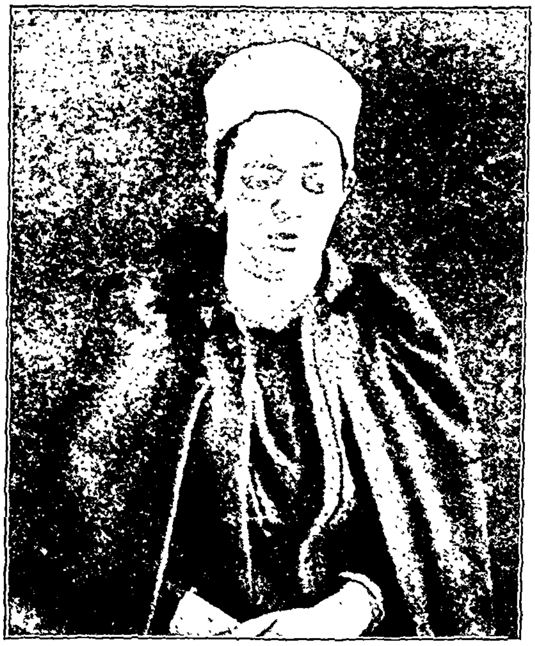
The exophthalmos is perhaps the most variable of the three cardinal symptoms, but may be the most striking. This was true in a case recently under my care. I present a photograph as she appeared in my office for treatment for the eyes. They had protruded to such a degree that the lids could not cover any portion of the cornea. As a result of exposure both had ulcerated. The extreme chemosis of the ocular conjunctivæ had pressed the lids still farther apart until they were immovable. At this point she had come under the care of a physician, who had recommended poulticing the eyes. The result was that the eye first affected resembled a prolapsus ani. The cornea had sloughed and its location was manifest only by a sulcus in the middle of the edematous conjunctiva over the shrunken, protruding ball. It may be mentioned that the worst eye was on the side opposite to the side of the thyroid most enlarged. This is contrary to the rule, but the exceptions seem to predominate.

The right eye had been painful and ulcerated only a few days, but was evidently going the way of the other. I enucleated the eye totally destroyed. The other was treated by the patient resting in bed, by the application of frequent hot boracic solutions, atropin, and multiple scarifications. It made a good recovery, although there had been a marked hypopyon, and it was about two weeks before the lids could cover the cornea.

This amount of exophthalmos is rare and extreme, but it is in many cases a very noticeable symptom. The sclera may be visible above the cornea. Stellwag's sign is the increased distance between the margins of the upper and lower lid. Graefe's sign is the lagging, jerking downward movement of the upper lid as it attempts to follow a downward rotation of the eyeball; either sign may be absent. Various learned explanations of these phenomena exist, which include the innervation of Müller's muscle. The fact, however, remains, that the mechanism of the signs or of the proptosis itself is not understood. The only imaginable factors are a relaxation of muscle tone, an overfilling of orbital veins, and an increase of orbital fat. My own opinion is that the first factor is the most important, since, in the case just detailed, an artificial eye could not be retained in the socket from the relaxation of the lower lid.

There are other evidences of weakness of muscle fibers. The sweating, diarrhea, weak, rapid heart action, throbbing arteries, and flaccid skin must depend upon a loss of tone in the involuntary muscles; while the trembling and general weakness is due to the same condition in the striped muscle.

It is certainly remarkable that the description of a person in terror should apply so exactly to the chronic condition found in this disease, said to be generally due to fright. The staring eyes, palpitating heart, trembling and weakness, not to mention the rarer symptoms of both, as relaxed bowels, sweating, abundant urination, and mental break-down are found in each. This has led to it being included among the nervous diseases. Because no organic central changes are found present it has been called a functional disease. Certain experimental lesions on the medulla have produced exophthalmos, and we all know that the vagus controls the rapidity of the heart's action. Other functional complications, as anesthesias and paralysis, are described by Gowers. All these considerations make out a strong case for placing it in the catalogue of nervous diseases. The prevailing treatment a few years ago by galvanization of the cervical sympathetic was due to this supposed pathology.



During the last few years there has been a trend in a different direction. While admitting that the manifestations of the disease were largely that of a neurosis, it was thought that some causation beyond the depressed nerve-centers must exist. The most natural cause, reasoning from analogy, would be some form of toxemia. Thompson's explanation of the disease as an intestinal autointoxication is a marked example following this etiology. So far as I know, this theory does not find general acceptance. I must admit, however, that I do not give phosphate of soda to my patients, following his recommendation.

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*Read before the Third District Branch, New York State Medical Association, at Binghamton, N. Y., June 21, 1900.

The asserted fact that over half the cases of exophthalmic goiter have been greatly benefited or cured by removal of the thyroid has had a most marked influence on our ideas of its character. If this is true, as is asserted by most competent authority, it must be that one of two explanations obtains.

Possibly the operations by reflex on the adjacent sympathetic or other nerve-centers modifies the general symptoms. Those who still hold to the purely nervous pathology claim this is true and cite the fact that a section of the cervical sympathetic is often beneficial. The other possibility is that the secretions of the thyroid entering the blood are of great importance normally, and that an over-action or perverted action of the gland by poisoning is the cause of all the other symptoms. This has been the controverted point during the last ten years. Most writers, I believe, admit that removal of the thyroid may be expected to cure the disease. The theories constructed on this fact, however, are most varied, and some of them appear fantastical.

The simplest of all the etiologies given is that the thyroid secretion is a complex poison to the organic nerves, that the rapidly growing gland with its increased function overwhelms those centers, and that its removal removes the cause of the disease.

Further study rather tends to dissatisfy us with this simple explanation, and presents at least four factors that should be considered. These are the physiological experiments on the thyroid, the contrast between this disease and myxedema, the possibility of recovery from the disease under other forms of treatment, and the etiology. It is impossible in the limits of this paper to enter into a discussion of each of these. I will simply try to illustrate the statement that the pathology is still complex.

Blum[1] gives careful experiments to show that the function of the thyroid is not to furnish a poison but to supply the antitoxin; that from imperfect assimilation, albumoses are produced, which it is the constant function of the thyroid to destroy by combination with an organic iodin product as iodothyrin. This emphasizes the importance of the normal thyroid, but just why an increased function of the thyroid should cause disease is not made clear. We must supplement this physiological explanation with the supposition that the antitoxin itself has an effect on the nerve-centers or that some other substance is secreted by the gland which does have such an effect.

Myxedema is a disease supposed to be due to the absence of the thyroid or a suspension of its functions. The reasons for believing this are quite cogent. Entire removal of the gland brings on the disease. Feeding the gland mitigates its manifestations.

Now, the symptoms of this disease and exophthalmic goiter are almost opposite. One has dry skin; the other moist. The first tends to a drooping of the upper lid; the second to widening of the palpebral opening. The body temperature is lowered in myxedema; in Graves' disease it is frequently raised subjectively or even objectively. In one the pulse is too slow; in the other too rapid. So the contrast in a general way holds good. But it must be added that some symptoms are common to both. Weakness, mental hebetude, insanity, expressionless face, anemia, and lessened sexual desire are examples of this. Indeed, cases are on record where the two diseases existed in the same patient at the same time. This is impossible to understand unless the functions of the thyroid are complex, or unless exophthalmic goiter is more than overaction of the thyroid.

The most common cause of the disease being a sudden fright, is also a puzzle in its pathology. One can imagine the mammary secretion being turned to a poison for a day by emotion; but that a chronic disease should be due to a sudden mental influence is not so easy to comprehend. The fact that cases have recovered under many forms of treatment besides that directed to the thyroid further complicates the question. Removal of nasal abnormalities is said to have cured the disease. Return to a healthy condition of the alimentary tract has also been followed by a recovery from the tripod symptoms.

From all these considerations it must be that underneath the lesser truths of the influence of the cervical sympathetic and of the thyroid gland and of the terror there must be a deeper cause. I am not able to give this deeper cause and shall not attempt the task. Before this can be done we must know more of the complex physiology of the thyroid. We ought also to know what set of nerve-centers are involved to give all the gross physical manifestations of a man or an animal in the extreme of terror.

My own feeling in regard to the disease is that we must now, perhaps always, attack its secondary manifestations; that there is a fright center as well as a speech center or a vasomotor center, and that this may be congenitally weakened. Last week I heard of a young wife who always felt that she should die if a burglar came into the house, and did die because she supposed her husband was one as he carefully came at two in the morning. In such a predisposed person—a woman in nine cases out of ten—sudden emotion produces changes in the heart, digestion, action of the kidney, circulation of the thyroid, size of the pupil, character of the breast milk, trembling of the limbs, flushing of the face, and so through a long list. Suppose some one of these physical manifestations, such as a disturbance in the thyroid, assumes a permanent character from an inherent predisposition. Then a vicious circle would be established in which the other temporary symptoms tend to be constantly reproduced. I know this appears to be a return to the nervous pathology, in contrast to the prevailing explanation as a disease of the thyroid. If I have made myself understood, it will be seen that the thyroid is recognized still as a prime factor, but only as one in a chain. Our treatment is influenced by this idea only to the extent that we attempt to break the chain at its most vulnerable point. If we are prepared to do this by excision of the thyroid wholly or in part, well and good. If we detect some other weaker link, or one we feel more competent to solve, our treatment may be directed there with a fair hope of success.

Significance of Tardy Adenopathy in Scarlet Fever.—Early nephritis in scarlet fever, accompanying the fever and eruption, is usually slight and transient, but nephritis occurring later frequently assumes a serious form. It usually appears insidiously with a few clinical manifestations, but the *Semaine Méd.*, of June 20, quotes Stembo to the effect that an invariable pathognomonic sign in the incipient stages is the abrupt tumefaction of the glands below the maxilla or at the back of the neck, or both combined, appearing during convalescence, after cessation of the fever and of other symptoms. The temperature rises slightly, but albuminuria and other indications of the [illegible] for four days.

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[1] Virchow's Archiv, 1898.

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MEDICAL LITERATURE AND MEDICAL WRITING.

Virchow's recent advice to writers for medical periodicals, upon which we have already commented,[1] is attracting considerable attention in American and English journals. The points he makes in favor of brevity in non-essentials; in favor of comprehensive summaries of the previous literature bearing on the subject discussed; and in favor of a judicious limitation of the number of illustrations are all well taken. They have been urged before on various occasions, both by Virchow himself and others.

There are certain general rules for good medical writing that can not be urged too often. There is the title of the article, to begin with the beginning. The indefinite, meaningless title is still entirely too frequent, especially in American medical journals. Many a valuable observation, conscientiously recorded, is buried forever because the title does not clearly and explicitly indicate the scope of the article. What a bugbear to the index makers and cataloguers are such titles as the following, selected at random from the table of contents of recent journals: "Notes from Clinics"; "Two Obstetric Cases"; "Practical Surgical Notes"; "An Interesting Case"; "A Rare Case"—the last two continue to appear in spite of repeated protests—"A Reply"; "A Reply After Two Years," etc. Let the title state as briefly as possible the main subject of the article, so that "he who runs may read" and learn at a glance whether the article is likely to be of interest at the present moment. Medical libraries constitute the classified and indexed storehouses of available knowledge, and authors should, in the interests of the survival of their mental offspring, give it such distinctive appellation that it be not overlooked and neglected by the student. That the article is brief, laying perhaps no claim to originality, being merely a statement of a few facts of interest, is no reason why it should be sent into the world a nameless child. The sum total of our knowledge is made up to a large extent of the summary of more or less isolated observations scattered through numberless journals, but brought within the scope of reference by index catalogues and indexes in general.

A table of contents, indicating more fully the nature of an article, is certainly a valuable addition. It is an amplified title, and shows the order in which the various topics are taken up in the body of the article. It induces to system and clearness in presentation. Unfortunately, medical periodicals have not adopted this plan as extensively as it has been adopted in current biological literature. It is also regrettable that a uniform system of classification, such as that of Dewey, has not been generally adopted in our libraries, public, institutional, and private. In that case the number under which an article should be classed might be printed at the top of the table of contents.

Much annoyance and loss of time are caused by errors in the references to the literature cited in articles. Every reference should be verified carefully. Bibliographic references are inserted as part of the evidence adduced and weighed by the author. They are not ornamental and do not necessarily indicate great learning and patient study and search. Lists of references may be bought; and in a recent review there occurs the damaging statement: "The bibliography is the best that money can buy"—damaging because true. Indeed, is not the matter of bibliography somewhat overdone of late? "Many authors are mere antiquarians, gathering up the chaff with the wheat, and choking their readers with the dust of their own tedious research." In giving a reference, the name of the author, the name, year, volume, and page or pages of the journal should be cited always. In case a book is referred to, its title, the year of publication, and the page must at least be stated.

At the present time illustrations are in great demand. Good illustrations are exceedingly helpful, but the blurred smutches often seen are certainly not desirable. Reproductions of X-ray photographs are frequently unintelligible, and there is nothing to be gained by the indiscriminate use of illustrations.

Finally a word concerning the long article. The merits of a scientific contribution are not to be determined solely according to its extent. A careful, conscientious study of an important problem in medicine may require a great deal of writing for the full exposition of the results, and yet the article may be brief in the sense that no words have been wasted by unnecessary minuteness of detail and tiresome discussion. Articles of this character may be classical, and it is the function of the medical press to furnish the medium of publication for work of this sort. We have as yet but few, if any, publishers whose liberality prompts the publication of scientific medical monographs. Let not the popular taste for the brief and the pointed and the easily grasped stifle the adequate and thoughtful presentation of the results of scientific investigation. On the other hand, it is well not to forget that long articles are not necessarily scientific, strange as this may seem to some whose names appear quite often in medical prints. Quality, not quantity, counts here as well as in other spheres of action The majority of articles submitted for publication could be cut down one-half, and not a thought be eliminated in so doing. The repetition of well-known facts, padding with abstracts from text-books, and words, words,

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[1] The Journal, July 21, p. 164.

words, too often constitute the papers that appear as "original" in medical journals. And if the editor presumes to use the blue pencil in the least, the majority of authors consider it an insult. If medical writers would but appreciate that the unnecessarily long article is just as unpopular with the reader as it is with the editor, there would be fewer written.

LITHOLAPAXY IN INDIA.

The August issue of the *Indian Medical Gazette* is a special one, devoted to the subject of East Indian experience with operations for stone in the bladder. This appears to be a common affection at all ages amongst some of the Indian populations, and the experience of Indian surgeons is therefore of value, the more so since their hospital opportunities are large. The papers published in this special number do not throw very much light on the etiology of the condition, the main point in all is the method of surgical cure. One thing stands out prominently in all the communications, namely, that Bigelow's operation of litholapaxy is the one that has become the operative mainstay of the British surgeons in India, and is the best and safest resource in all ordinary cases, regardless of age. One surgeon, Capt. H. Smith, I. M. S., analyzes nearly 8000 cases of operations for vesical calculi made in the Punjaub and in a few hospitals in the adjoining provinces since 1890. Of these 6918 were litholapaxies, with an average mortality of 3.81 per cent.; 980 perineal lithotomies, with 10.71 per cent. mortality; 29 suprapubic lithotomies with 41.37 per cent., and 27 of Keith's operation of perineal litholapaxy, with 7.4 per cent. death-rate.

Further, the figures given show the comparative harmlessness of the operation in children, as 1802 of the litholapaxies were done in subjects under 6 years of age with a mortality of only 2.55 per cent., and a total of 2615 under 12, with a total mortality of 45, or 1.72 per cent. Above this age the death-rate increased according to age, being 3.43 per cent. from 18 to 55 and 5.73 above the latter age. Keegan, who is claimed as the originator of the practice of litholapaxy in young children, would certainly seem to be vindicated by these figures. Indeed, they are better than his own statistics of 2.09 per cent. mortality in 239 boys averaging 6.4 years of age, as reported in the *Lancet*, July 28, 1894, to which he refers in reply to a criticism in the recent work of Dr. Lydston. In fact, Dr. Keegan has expressly disclaimed any pre-eminent dexterity or success in the operation, though his results as given above are creditable.

The history of litholapaxy in India, where hospitals have, in some cases, hundreds of operations for calculus annually, though dating back as it does less than twenty years, would seem to put the operation easily ahead of all others for the relief of the condition, and especially in the young, if there is distinction or preference as regards age. As Keegan says, however, and in this, others of the Indian surgeons agree with him, it is an operation that requires skill, and especially experience, as well as ample appliances for the best results. It may therefore be slower in winning the favor with European and American surgeons that it has with those of India, whose clinical opportunities as regards this operation seem to be so much greater.

Forbes Keith's operation of perineal litholapaxy has also its indications and advocates in this review of the subject in the *Indian Medical Gazette;* the Indian surgeons appear to desire to extend the use of the crushing methods and the statistics they give are not unfavorable. It is probable, however, that to some extent the popularity of these has, as our East Indian contemporary suggests, affected the statistics of the cutting operations, which are not there selected in a way that makes for high-class statistical results. Be this as it may, however, the figures given appear to fairly establish the pre-eminent utility, in that country at least, of Bigelow's operation and its modifications, without regard to age conditions originally deemed of importance.

DIPHTHERIA, LARYNGITIS AND LARYNGISMUS.

While it is true that membranous laryngitis may be due to other exciting causes than the diphtheria bacillus, in actual practice almost all cases have this specific bacterium. Laryngeal obstruction, with the complex of symptoms known as croup, may, however, be due to other causes, such as spasm of the glottis, the presence of new growths or of foreign bodies in the larynx. The differentiation is, obviously, of the greatest importance, as on it will depend the appropriate treatment to be instituted. Croup, it should be borne in mind, is but a symptomatic designation, and it may be due to any one of a number of causative influences. Symes,[1] in a recent communication, describes the features of croup as follows: laryngeal stridor, cough, with a barking, "croupy" sound, a nocturnal paroxysm, great restlessness, and recession of the chest; and he considers briefly the clinical characters of the three principal varieties of disease that are attended with these phenomena, namely, diphtheria, laryngitis, and laryngismus.

Membranous croup and diphtheria are to be looked on as essentially the same disease. The condition is characterized by its gradual onset, enlargement, induration, and tenderness of the cervical lymphatic glands, increased area of cardiac dulness, the presence of albumin in the urine, the detection of membrane in the pharynx, and the presence of diphtheria bacilli, the long duration, the slow recovery, and the transmissibility. A septicemic rash may be present, and the knee-jerks are occasionally absent.

Acute laryngitis may be attended with swelling and edema of the larynx and croupy symptoms. In addition, there will be hoarseness of voice, the respiration has a hissing character, the lymphatic glands are not enlarged, the onset is more rapid, albumin [illegible] n[illegible] [illegible]sent.

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[1] Dublin Journal of Medical Science, J

and the attack does not occur especially at night. The knee-jerks are not altered, the heart is not dilated, and there is no history of infection.

Spasmodic laryngitis is differentiated from diphtheria by its abrupt onset, its occurrence at night, its recurrence, its appearance in more than one member of the same family, the rapidity of recovery, its association with enlarged tonsils or adenoids, its development in children between the ages of 3 and 15 years, and the relief afforded by vomiting.

Laryngismus, on the other hand, is a spasmodic neurosis of early infancy, occurring almost exclusively in rachitic children and unattended with cough. The spasm causes sudden arrest of breathing in expiration, followed by a crowing inspiration. The disorder is most common between the age of 6 months and 3 years. It is unattended with fever, there is no hoarseness, and the child appears to be well in the intervals. Recovery occurs, as a rule, although the spasm may terminate fatally. In addition to its rachitic origin, it may also be of congenital or reflex origin.

THE INFLUENCE OF ALCOHOL UPON SUSCEPTIBILITY TO INFECTION.

It is not long ago that alcohol enjoyed a wide range of therapeutic usefulness. It was given to reduce fever and it was taken to produce warmth; it was prescribed for sleeplessness as well as for the purpose of arousing the flagging mental activities; it was supposed to stimulate the appetite and to furnish food, and it was used accordingly; and in the treatment of infections and certain intoxications, acute as well as chronic, alcohol has long played a very prominent part. In not a few instances the treatment of infections with alcohol in its various forms has been carried to such an extent that "heroic" is the most popular term to describe the doses given.

But the rôle of alcohol as a panacea is being rapidly curtailed. The light of exact investigation has shown that the therapeutic value of alcohol rests on an insecure basis, and it is constantly being made clearer that after all alcohol is a sort of poison to be handled with the same care and circumspection as other agents capable of producing noxious and deadly effect upon the organism. In reality, practically nothing is known concerning the influence of alcohol on the susceptibility and the course of infections in man. Clinical observation can not solve such questions properly. The basis for final judgment must be found in experiments, but so far little has been done in this line. It has been shown by Abbott[1] and others that alcoholic animals are more susceptible to infections with various organisms than normal animals. And Laitinen,[2] after having studied the influence of alcohol upon infections with anthrax bacilli, tubercle bacilli, and diphtheria toxin in dogs, rabbits, guinea-pigs, fowls, and pigeons, reaches the same general results, and this with certainty and directness.

Under all circumstances alcohol causes a marked increase in susceptibility, no matter whether given before or after infection, no matter whether the doses were few and massive, or numerous and small, and no matter whether the infection was acute—anthrax—or chronic—tuberculosis—or more of the nature of an intoxication—diphtheria. The alcoholic animals either die while the controls remain alive, or in case both die, death is earlier in the alcoholic. Without going into details in connection with the experiments—and there is room for further work here—it may be said at this time that the facts brought out by the researches of Abbott, Laitinen, and others do not furnish the slightest support for the use of alcohol in the treatment of infectious diseases in man.

TRADE UNIONISM IN MEDICINE.

An association of physicians is being formed in Detroit on apparently regular trades-union principles, exclusion of all non-members from any professional recognition, "business agents" under the name of ward governors, and all the other essential outfitting of a regular trades union. The Journal is an advocate of organization of the medical profession on legitimate ethical lines, but we trust the report of the proposed action in Detroit is incorrect, at least in some of its details. It is not necessary to imitate the objectionable features of a laborers' or mechanics' organization, nor is it dignified or worthy of a learned profession. If our judgment is correct, and we have no reason to doubt it, the plan as proposed will hardly succeed and will not help the profession as a whole. There is ample opportunity for an organization of physicians that will protect their own interests without sacrificing their self-respect as members of a learned and honorable profession. The proposed plan does not do it, it seems to us, and there are still other features than those mentioned that may be open to objection.

UNGUARDED RHETORIC.

What we must regard as an unfortunate expression in Dr. Jacobi's address at the International Medical Congress[1] has caused some resentment, as will be seen in the correspondence published in this issue, as might perhaps have been anticipated. The speaker undoubtedly referred to certain extreme conditions, but it is unfortunate that he used the terms as applying to any special sections, only partially qualifying his remark by saying that the boundaries of most states include the most various degrees of culture and the contrary. It would have been better had he said all states, for no section of our country has a monopoly of culture or of its opposite. The highest culture and refinement are least obtrusively self-conscious, and of this kind the East has no exclusive supply, any more than has the South of "abject animalism," or the West of any peculiar qualities. Our correspondent may be unduly sensitive, but we ourselves can not but regret the semi-apologetic accent of some portions of the address in regard to our national standing in medicine and science. Foreigners are condescending enough at present, and we naturally prefer such an utterance as that of Osler, who saw in the future of America a scientific Mecca, rather than even an equivocal admission of real or fancied national defects, in such an address. Nevertheless, we do not feel so badly hurt as we might were the implications better based on facts in this special case.

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[1] Journal of Experimental Medicine, 1896, i, 447.
[2] Ztft. f. Hyg. u. Infektionskr., 1900, xxxiv, 206.

[1] The Journal, August 18, p. 427.

DEATHS AND ACCRETIONS IN THE MEDICAL PROFESSION.

The State Board of Health of Illinois has just published a list of the physicians, licentiates of the Board, whose deaths have been reported since 1877. This gives a total of 2266 deaths, or an annual average of about 100. This is not a large number, considering the fact that there are between 8000 and 9000 licensed physicians in the state, and indeed it is small when account is taken of the large output of new physicians each year. Last spring Chicago institutions alone graduated 676, and Illinois is fairly surrounded on all its borders with medical schools. With the increasing prevalence of state examinations, the tendency will probably be more and more to stiffen the requirements, but it is still difficult to see how all the newly-fledged physicians are to be accommodated with a practice and a living. The chances are that more will be inclined to settle down in their native state or in that in which they have studied and where it might seem to them that any prejudice or allowance in the examinations would be in their favor. With all possible restrictions to entrance in the profession, however, the death-rate among physicians in Illinois is far from being adequate to make room for its share of the annual crop of graduates. Undoubtedly the figures are too low, if anything, and there must also be a large defection from the profession in other ways than death. The figures point clearly to one thing: We are overdoing medical education as regards numbers. This, however, has long been known. The workings of the new medical-practice laws, that are all the while becoming more rigid and general, will be watched with more interest hereafter, and the relative standing of the different colleges before the boards may possibly have a salutary effect in ultimately weeding out some of the poorer ones. At present the evil is in full blast and though the subject is a hackneyed one, it is well to utilize every available fact as a text for the utterance against the modern multiplication of medical colleges with their competition, consequent laxity as to standards, and indigestible output of semi-fitted or unfitted candidates for medical practice.

THE RELATION BETWEEN URIC-ACID EXCRETION AND EPILEPTIC SEIZURES.

The attack of epilepsy may be looked on as a manifestation of the activity of the motor cells of the cerebral cortex, induced by abnormal stimuli. In the absence of positive evidence, there may be reasonable discussion as to the nature of the latter. Sometimes the irritant is grossly mechanical, as a spicule of bone or a clot of blood or a new-growth—hyperplastic or neoplastic—or an inflammatory or traumatic lesion of the brain; at other times it may consist in a poison circulating in the blood. Convulsions due to the influences named are, however, commonly designated epileptiform, in contradistinction from seizures due to less tangible causes, and the latter alone are considered epileptic. The distinction is rather one of convenience than exactitude, and as time goes on, the first group may be expected to expand, while the second grows progressively more restricted. Uric acid is one of the substances that has been thought to be responsible for the occurrence of epileptic seizures, as it has also been held accountable for numerous other derangements of function. Without attributing the epileptic seizure directly to the action of uric acid, it has further been contended, on the basis of experimental observation, that the excretion of uric acid is invariably diminished before each paroxysm of "idiopathic" epilepsy—sometimes immediately before, and at other times at an interval of a day or two; while the excretion is believed to return to and even to rise above the normal, after the paroxysm. The variations in the excretion of uric acid are considered as corresponding to other chemical changes through which the real poison, carbaminic acid, is formed. For the purpose of testing the validity of this proposition, Putnam and Pfaff[1] made a study of 29 specimens of 24-hours' urine from two cases of epilepsy, in the one during a period of three months, with five seizures, and in the other during two periods, each of a month, and each with one attack. The results, however, failed to show that there was any relation between the occurrence of the epileptic attack and the amount of uric acid excreted.

RAPID GROWTH OF THE TUBERCLE BACILLUS.

The tubercle bacillus grows but slowly upon our usual culture-media, a circumstance that causes delay in diagnostic and other investigations. Not long ago, Hesse advanced the claim that by adding a certain nutritive substance, called *Naehrstoff Heyden,* to agar or glycerin-agar, instead of the usual peptone, a medium is presented upon which the bacillus of tuberculosis grows with unexpected rapidity, characteristic growth being evident in two or three days. Indeed, the souring of tuberculous sputum upon this medium was said to be followed by multiplication of the bacilli in six to seven hours, as determined by microscopic examination of the surface inoculated. Hesse, on this account, leans to the opinion that all bacilli thrown off with the sputum have the power of multiplication—a fact of interest and importance if generally corroborated. Ficker[2] and Römer[3] have tested the results reported by Hesse. Both agree with Hesse, that on the medium prepared according to his directions the tubercle bacillus shows greater proliferative energy than on any other artificial subtratum. The exact substance in the *Naehrstoff Heyden* that induces the rapid growth can not be stated as yet. As regards the rapid multiplication of bacilli in sputum placed upon Hesse's medium, Ficker and Römer reach a different conclusion from that of Hesse. In the first place, the impression [illegible] from the surface of the cultures showed that in certain flocculi of the sputum, growth had taken place, whereas in others it was evident that no multiplication had commenced. In the second place, careful study of inoculations of tuberculous sputum upon the usual media showed evidences of increase in the number of the bacilli just about as early as on Hesse's medium. It was also learned that in their growth the bacilli seemed to confine themselves to flocculi of sputum; when the limits of the flocculi were reached, a standstill in the multiplication was noticeable. This observation led to the thought that the mucus in the sputum was the stimulating factor, and Römer found that bacilli inoculated on cultural surfaces with non-tuberculous mucous expectorate carefully washed in sterile water grew much faster than on control plates without mucus. The difficulty in obtaining sterile mucus placed heavy obstacles in the way of extensive investigations along these lines. Enough results have been obtained, however, to show that the tubercle bacillus uses to great advantage the materials present in the mucus surrounding it in the sputum. Mucus alone is not sufficient for growth—and this is perhaps fortunate—because there is no rapid increase in the number of bacilli in tuberculous sputum kept in a moist chamber.

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[1] American Journal of Medical Sciences, August, 1900.

[2] Centralbl. f. Bakt., Abtheil. i. 1900, xxvii, p. 500.

[3] Ibid., p. 705.

INTERNAL HEMORRHAGIC PACHYMENINGITIS.

The nature of that peculiar form of inflammation of the dura mater, known as pachymeningitis interna hemorrhagica, has long been a subject of discussion and study. But the process or processes are so unique and so different from other inflammations that most questions in regard to this disease still remain unsettled. The description of the microscopic structure of the dura by Key and Retzius twenty-five years ago remains true now. The membrane is composed largely of collagenous fibers mixed with more or less elastic tissue which, according to Melnikow-Raswedenkow,[1] increases in amount with advancing years. According to the recent investigations of this author the external and internal surfaces of the dura are covered with elastic lamellæ or limiting membranes. Upon the internal surface of the inner of these layers we have the epithelial lining of the dura. There are capillary networks near both the limiting membranes. It will be recalled that the external layer is closely applied to the inner surface of the skull and plays the rôle of periosteum for the skull. Melnikow-Raswedenkow examined a number of examples of hemorrhagic pachymeningitis. It begins as an inflammation of the inner or epithelial layer; a superficial exudate forms, capillaries grow into the exudate from the network below the inner elastic layer, and a layer of vascular connective tissue develops. From this a scar may result, but the characteristic feature is the hemorrhagic extravasations from the new capillaries. This process may become chronic, and thick layers of vascular and hemorrhagic or pigmented connective tissue in various stages may form, the oldest parts being nearest the internal elastic layer. It is the advanced forms of this process that give us the clinical picture of internal hemorrhagic pachymeningitis, encountered perhaps oftenest in the insane. The principal point in this sketch of the histogenesis is that the inflammation is the first step, the hemorrhage being secondary and complicating. This corresponds to one of the two current views of the pathogenesis of pachymeningitis; the other view holds that the hemorrhage is the primary event. The earlier stages of pachymeningitis are observed especially in various infectious diseases and do not give rise to recognizable symptoms; undoubtedly the process frequently heals spontaneously; but under some conditions the inner elastic layer grows in thickness and thus the communication between the old capillaries on the outside and the new capillaries on the inside of the elastic layer is greatly hindered, and the organization of the exudate and the return flow are delayed; hence the liability to hemorrhages and to continued inflammation. Great stress is thus laid on the mechanical rôle of the inner elastic layer in addition to the primary toxic agent. The toxic agents give rise to the earliest changes. the inflammatory, which are situated on the surface of the dura; the disease is to be looked on as a complication of general diseases; the peculiar mechanical conditions under which the new-formed vessels engaged in the absorption of the exudate are placed favor circulatory disturbances and extravasations into the new tissue. This view of the genesis of pachymeningitis is ingenious and helpful because it brings into prominence certain etiologic factors as well as the structural peculiarities of the dura.

Medical News.

The University of Athens has founded a chair of hygiene and bacteriology, and appointed Dr. Savas, staff officer in the Greek army, to the place.

The number of persons who graduated last year in the learned professions was 16,448, and of these 5597 were graduates in medicine, 3065 in law, and 1673 in theology.

The Plague in Glasgow.—The recent reports from Glasgow, up to September 5, show that an additional case of plague has been discovered, making a total of thirteen. Three doubtful cases are isolated and 103 are under suspicion and observation.

A Cuban Medical Journal.—Dr. John Guitéras, formerly professor of pathology in the University of Pennsylvania, and who now holds a position in the teaching faculty of the University of Havana, has established a medical journal there, entitled *Revista de Medicina Tropical.*

Food of the Poor in the United States.—As a result of the examination of the comparative nutritive quality of food obtained from nine states and one territory of the United States, Professor W. O. Atwater finds that the American people could get twice as nutritive food for about half the money they now pay. In his opinion three times as much food is wasted as is eaten.

School Hygiene in Germany.—The Minister of Public Instruction for the German empire has ordered that all public schools should be dismissed with a maximum of four hours of consecutive instruction whenever the temperature is 25 C.—77 F.—in the shade at 10 a.m., and that no afternoon session shall be held. The school hours must likewise be shortened even at a lower temperature, if the rooms are small or overcrowded. Children who have an unusually long, unshaded walk to school must be excused from the second session.

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[1] Ziegler's Beiträge, 1900, xxviii, 226.

A Good Fee.—Dr. J. N. McCormack, Bowling Green, Ky., is to receive the very handsome fee of $10,000 for professional services rendered William Goebel, the murdered governor-elect of Kentucky. At the time the shooting took place, Dr. McCormack, an old friend of Goebel, happened to be in Frankfort, and the wounded man asked that he be called. It was important that the patient be kept alive until he could be sworn in as governor, and the doctor not only remained with him until this had been done, but until the governor had died. There is no objection made by the family to the fee charged, in fact the amount was suggested by a brother of the deceased, a devisee under the will. Dr. McCormack is well known to the profession, and especially on account of the lead he has taken in the successful fight against quackery in Kentucky. He is secretary of the Kentucky State Board of Health.

Koch's Latest Report on Malaria.—Dr. Koch has concluded his malaria research in German New Guinea, after a six months' stay. His experience included the rainy season and the transition periods in which malarial affections are most prevalent. He claims that they confirm his previous announcements and anticipations that the only practicable and effective method of exterminating malaria is the radical cure of every case. He deems the extinction of the infecting mosquitoes impracticable, and observes that the protection afforded by netting is good as far as it goes, but that no substance applied to the skin to drive away the insects has proved of more than transient benefit, while some are directly injurious to the bearer. It is possible, he adds, that some means may yet be devised to artificially hasten the immunization, which naturally is not attained until after four or five years and many attacks of malarial infection, but at present the prospects in this line are slight. He considers his malaria mission accomplished, and now leaves for Herbertshöhe to study the subject of the spread of malaria in a "safety zone." His latest communication is published in the *Deutsche Med. Woch.* of August 23. No new cases occurred at Stephansort during May and June, and only four relapses, all of quartan fever, which he regards as the mildest but the most obstinate form of malaria.

ARKANSAS.

A sanatorium for the Knights of Pythias is to be established by the order at Hot Springs. Congress has donated five acres of land for a site, and a fund of $500,000 is to be raised for the purpose of erecting, equipping and endowing a suitable building.

CALIFORNIA.

Dr. Thomas E. Cummane, of Santa Paula, has located in Ventura.

Mrs. Phoebe Hearst has given $1000 toward the new free hospital at Berkeley.

The county hospital at Riverside is now almost ready for occupancy. It is located on a triangular plot of ground eleven acres in extent with one side facing Magnolia avenue.

San Jose had a death-rate of 12.04 per thousand for the year 1898-1899 and of 12.12 per thousand for the year 1899-1900. The birth-rate for the same years was 9.06 and 9.64 per thousand respectively.

An emergency hospital is urgently needed in Golden Gate Park, San Francisco. This need has been emphasized by the recent death of a San Francisco teacher near the Cliff House, whose life might have been saved had efficient medical aid been at hand.

A hospital to provide for the needs of sick or injured students at the University of California has been established at Berkeley. The president of the university is honorary president of the association, Dr. F. H. Payne, president, and Dr. J. S. Eaton, secretary. The board of directors in addition contains four physicians and five laymen.

Oakland's annual health report shows the lowest death-rate, with one exception, for eighteen years. During the year, 40 deaths from zymotic diseases occurred; 59 died in 1899 from this cause. The annual death-rate per thousand for July was 12.48. Seven died from pulmonary tuberculosis and 7 from apoplexy. Violence caused 9 deaths, including 3 suicides.

CONNECTICUT.

The investigation of the condition of affairs at the New Haven Hospital, which has been demanded by the New Haven Medical Society, is to be made. The committee appointed for the purpose consists of Gen. Samuel E. Merwin, president of the hospital, Judge Simeon E. Baldwin, Prof. Morris F. Tyler, Eli Whitney, Dr. W. H. Carmalt, Dr. W. G. Daggett and Joseph Porter.

DISTRICT OF COLUMBIA.

Dr. J. F. Kemp, who has been for six months an interne at the Georgetown Hospital, has been appointed acting assistant-surgeon in the army.

Dr. Charles C. Marbury, of Washington, has been appointed police surgeon, vice Dr. J. Ramsay Nevitt, appointed coroner of the district.

The Casualty Hospital, Washington, during the month of July treated 97 emergency cases; 83 surgical operations were performed and 17 patients were placed in the wards. During the same month the Eastern Dispensary reports 279 applications for treatment and 6 surgical operations.

HAWAII.

Typhoid fever is reported to be epidemic at the Kapiolani Home for Girls at Kalihi.

The Honolulu board of health, at its August meeting, was appalled to find 12,000 bills arising from the plague epidemic awaiting its action, with many outlying districts to hear from. Although about $20,000 was left in the fund, it seemed likely that it would be only a drop in the bucket toward payment of these bills.

The mortality among Hawaiians is excessive. The report for July shows that 114 died during that month, 80 males and 34 females; 53 were Hawaiians, 25 Japanese, and 12 Chinese; 28 were under 1 year of age and 15 over 60. The mortality for the month for the last six years is as follows: 1895, 51; 1896, 48; 1897, 59; 1898, 75; 1899, 93, and 1900, 114. The annual death-rate per thousand was 30.74. Consumption was the cause of death in 18 cases and typhoid fever in 17.

ILLINOIS.

Dr. Roy Williams has opened an office for the practice of medicine in Rockford.

Dr. Max F. Clausius, of Barrington, has been appointed acting assistant-surgeon in the army.

Dr. Ethan P. Allen, who has practiced in Stillman Valley for twenty years, has moved to De Kalb.

Dr. Charles E. Crawford, of Rockford, has been re-elected supreme medical examiner of the Sons of St. George.

A new monthly medical journal, the *Southern Illinois Journal of Medicine and Surgery,* has appeared. This newest aspirant for professional favor is published at Metropolis.

Cass County commissioners have elected as physicians for the coming year, Dr. John W. Porter, Virginia; Dr. Howard B. Boone, Chandlerville; Dr. Joseph D. Lyons, Ashland, and others.

The Evanston [illegible] end[illegible] fund [illegible]
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structed. A training school for nurses is to be one of the improvements undertaken.

The pure food law is not understood by the public at large. It is intended to protect the buyer against imposition. If he wants to buy oleomargarin for butter, chicory for coffee or dilute acid for vinegar he is at liberty so to do, but the law requires that such articles shall be labeled. The *Chicago Chronicle*, in a concise and timely editorial, commends the work of the Illinois Pure Food Commission and shows what it is endeavoring to accomplish.

Chicago.

Dr. Nicholas Senn has returned from his summer vacation, most of which was spent in Texas and Colorado.

Dr. Thomas Warloe has decided to remain in Trondligen, Norway, give up the practice of medicine and go into business.

The Trinity Diet Kitchen for infants at 3213 Wallace street during the last two months has cared for 700 babies, with only one death.

Dr. J. B. Murphy has severed his connection with the College of Physicians and Surgeons—medical department University of Illinois—and has accepted the position of professor of surgery in the Chicago Medical College—medical department Northwestern University. At the same time he assumes the position of chief surgeon to Mercy and Wesley Hospitals.

INDIANA.

Dr. Samuel L. Kilmer, of South Bend, whose eye became infected by sputum from a diphtheric child, is seriously ill and is reported as likely to lose the affected eye.

Two Logansport physicians, Dwight C. Powell and Harry C. Gemmill, Jr., recently appointed acting assistant-surgeons in the army, have started for China via San Francisco.

South Bend must care for its own diphtheria, says Dr. J. N. Hurty, secretary of the state board of health. He has informed the local authorities that they should be fully conversant with their duties and should be able to handle the situation. His duty is to go to places where officials do not understand how to attend to these matters.

IOWA.

A new pest-house is to be provided for Des Moines, as the detention hospital is too near the heart of the city to satisfy the citizens or the city council.

Dr. James R. Wedel, of Vincennes, was accidentally but dangerously wounded on August 13 by a pitchfork thrown from a straw-stack by a farm-hand.

Titusville is to have a hospital costing $14,500. The board of directors of the hospital association has made a contract for the erection of a pressed-brick building two and one-half stories high, 90x47 feet, to be completed and ready for occupancy in six months.

KANSAS.

SMALLPOX STATISTICS.

Dr. W. B. Swan, of the State Board of Health, reports that there are fifteen cases of smallpox at present in Kansas; eleven in Crawford and Cherokee counties, two in the southern portion of Sumner county and two in Topeka. Most of the cases from southern Kansas are among the miners in Crawford county. The eleven cases from Crawford and Cherokee have been reported within the past two weeks. Prompt measures will be taken to stamp out the disease so far as lies in the power of the board. The state law provides that the county commissioners of the several counties shall act as local boards of health for their respective counties. Each local board thus created shall elect a physician, preference being given to an adept in sanitary science, who shall be ex-officio a member of the local board, and the health officer of the same. The county commissioners of Crawford county have been urged to take up the matter of smallpox at once and adopt vigorous measures to stamp it out. The epidemic began last December. Most all, if not all, the county health officers were puzzled as to the origin and nature of the disease and very few cases were reported to the state board of health in that month. The record from the first of the present year is as follows: January, 29 cases, 1 death; February, 437 cases, 10 deaths; March, 456 cases, 5 deaths; April, 370 cases, 1 death; May, 116 cases; 8 deaths; June, 37 cases, 1 death; July, 5 cases and no death.

KENTUCKY.

Dr. Henry E. Tuley, Louisville, returned from his vacation, September 7.

Dr. Thornton Perkins, of Elkton, a graduate of Bellevue Hospital Medical College, has been appointed acting assistant-surgeon in the army.

Suit against the Louisville and Nashville Railroad has been entered by Dr. Dudley S. Reynolds, of Louisville. He claims $10,000 damages for permanent injuries received at Glasgow junction, by the falling of a piece of coal.

MAINE.

Two Biddeford physicians, Dr. John S. Fogg, who has recently resigned after two years' service in the army, and Dr. F. S. Warren, have gone to Europe for a short trip.

MARYLAND.

Dr. Alvin H. Price, of Baltimore county, had a second stroke of paralysis on August 27.

An effort is being made to build a hospital at Annapolis. Numerous accidents occur there, and large numbers of strangers go there for business or pleasure. Dr. William S. Welch is in charge of the project.

Baltimore.

Dr. James Bosley, health commissioner, has been spending his vacation at Rehoboth Beach, New Jersey.

A negro suffering with confluent smallpox was found in a local hospital August 29 and removed by order of the health department to the quarantine hospital. He stated that he had left Elkins, Va., nine days before. The crew of the vessel on which he came were at once vaccinated, but the passengers had disappeared.

Preparations for the coming session are being made at the Baltimore Medical College. The pit of the amphitheater has been enlarged, a new sexagonal tile floor has been laid, new operating tables and new basins have been provided. The operating-rooms have been renovated and a room has been provided for use as a surgical dressing closet.

For the week ending August 26 there were seven deaths attributed to sunstroke, and 76 of children under 5 years of age. Among the deaths were: Cholera infantum, 39; consumption, 24; typhoid fever, 8; consumption, 24; typhoid fever, 8; pneumonia, 7; and drowning, 5. The death-rate for whites was 17.30; for colored, 30 per thousand.

August, 1900, goes down as the hottest month on record here. The daily average was 89.30 F. There were more than 30 heat prostrations, and many more deaths indirectly due to the heat. For 17 days the thermometer reached 90 or over, and for the six days, August 7 to 12, the average was 99.3. The excessive humidity, the unusual dryness and the absence of winds have made it a season never to be forgotten by Baltimoreans.

The health commissioner is not satisfied with the reports of births sent in to his department by physicians, parents and midwives. It is so incomplete as to be of little value. The matter is of such pressing importance, especially in its legal relations, that he proposes this fall to have an ordinance introduced into the city council prescribing a penalty for failure to report births. At present the reports show a greater number of deaths than births.

MASSACHUSETTS.

Dr. A. C. Doten, of Worcester, has been appointed ambulance surgeon to succeed Dr. Francis Shaw, resigned.

Dr. Arthur Fournier has removed from Three Rivers to Gardner, and has taken the office and practice of Dr. J. N. Roy.

Charlton celebrated on August 19, the 81st birthday anniversary of Dr. William T. G. Morton, the discoverer of ether.

Dr. C. A. Sturtevant, West Somerville, has been appointed acting-assistant-surgeon in the army and is already on his way to San Francisco.

Dr. Luke B. Peck, Brookline, has been appointed acting assistant-surgeon in the army and assigned to duty with the United States forces in the Orient.

Union Hospital at Lynn has secured its charter. The incorporators and first board of directors are: Dr. Frank L. Judkins, president; Dr. Charles E. Jenkins, treasurer, and the remainder, physicians from recognized schools of medicine. The hospital will have an immediate capacity of 20 to 30 beds.

MICHIGAN.

The matron of the Jackson City Hospital, Mrs. Flora A. Stickle, who has held that position for eleven years, has resigned, and Miss Minnie West, of Grace Hospital, Detroit, has been appointed her successor.

Dr. John L. Burkart, late city physician of Grand Rapids, and assistant-surgeon of the 32d Michigan infantry, U. S. V. during the Spanish-American war, has been appointed acting assistant-surgeon in the army, and has been ordered to China.

The health officer of Kalamazoo reports that the health of the city is menaced by the unclean vaults, many of which have not been cleaned for more than ten years; by the drive-wells, many of which are close to these unclean vaults, and by the poverty of provision for the health department. He recommends that the city fit up a laboratory at an initial cost of about $500, and that it also erect a garbage crematory.

A free hospital with a well-equipped laboratory is urgently needed for the care of the sick poor of Detroit. Dr. W. F. Metcalf claims that at present the poor of the city are not taken care of in the best way, speaking from a medical standpoint. Their cases are not studied and tabulated as they should be to secure the best results to the patients themselves and to the progress of scientific medicine.

MINNESOTA.

Dr. and Mrs. T. W. Villiers Appleby have returned to St. Paul from an extended tour in Europe.

Dr. Reynaldo J. Fitzgerald, of Minneapolis, who served as surgeon of the 13th Minnesota Infantry, U. S. V., in the Philippine campaign, is seriously ill with appendicitis.

The Postmaster-General has confirmed the appointment of Dr. Walter R. Ramsey as official physician to the post-office department in St. Paul, to take effect September 1.

The State Board of Defectives has decided upon plans for the cottage to be built at the state farm for the use of epileptic boys. The building will cost about $14,000, and will accommodate thirty-five patients.

Smallpox, during the present epidemic in Minnesota, has occurred in 114 different localities in 48 counties and now exists in 32 localities in 16 counties. Up to July 1, 1900, there had been 1164 cases, with 28 deaths.

The Lumberman's Hospital, Brainerd, has been sold by Dr. James L. Camp to the Benedictine Sisters, of Duluth, for $9000. The transfer includes twenty acres of land and the hospital, which will be remodeled by the new owners.

The State Board of Health has sent a circular to presidents of school boards and school superintendents and principals throughout the state urging that especial precautions be taken to prevent infectious diseases at the opening of the school year. To this end it recommends that a salaried inspector be selected by each school board, who should make a daily inspection of schools and pupils, and take all necessary steps to prevent the spread of disease.

MISSOURI.

St. Louis has $258,000 in hand and will proceed at once with the erection of a city hospital to accommodate about 300 patients. The bill passed by the city council August 7 was signed by the mayor August 15 and became a law August 25.

NEBRASKA.

Dr. John M. Neely, of Elmwood, has been appointed local surgeon for the Missouri Pacific railroad.

Dr. Frederick J. Wearne, of Omaha, county physician of Douglas County, has been given opportunity by the county commissioners to resign so that his place may be filled by a new man. No charges are made against Dr. Wearne, but the commissioners desire "to pass the honors around." It is claimed that this is outside of politics, but it "hath an aged and fish-like smell."

NEW JERSEY.

An epidemic of typhoid fever threatens the town of Trevorton, owing to polluted water and defective drainage. Two persons have died and several are now ill with the disease.

The Camden Commission of Public Instruction has decided that persons wishing positions as teachers in the public schools must be healthy and applicants must show certificates from reputable physicians as proof that they are free from tuberculosis, before receiving appointments.

NEW YORK.

Dr. George B. Broad, of Syracuse, is dangerously ill, as a result of infection.

Resolutions of respect regarding the late Dr. John F. Burns, of Long Island City, were passed by the Long Island City Medical Society August 19.

Parks Hospital, Glens Falls, has now an attending staff, consisting of Drs. R. Jerome Eddy, Howard S. Paine, William J. Hunt, David J. Fitzgerald, Fred G. Fielding, Thomas I. Henning, Charles S. McLaughlin, Claude A. Horton and others.

Promotions are in order at the State Hospital, Binghamton. Dr. W. A. White becomes first assistant physician, and Drs. H. Wardner Eggleston, Cecil McCoy and Edward Gillespie are each advanced a step, while Dr. Irving L. Walker, Waverly, recently graduated from the College of Physicians and Surgeons, New York, has been appointed medical interne.

The lay press chronicles the wonder of medical men over a patient in Copenhagen who has been operated on fifty times and has had 2918½ pounds of fluid taken from her body. This reminds one of the epitaph on Dame Mary Page in Bunhill Fields burying-ground, who "in 66 months was tapped 67 times, and had taken from her 496 gallons of water without ever repining at her case or ever fearing the operation."

New York City.

Dr. Henry Koplik has returned from his vacation trip to Europe.

Fast riding on automobiles is not allowed even physicians on emergency calls. Dr. Wallace C. Clark, 113 West 34th street, was fined $3 and costs for this offense.

OHIO.

Dr. Agnes Gardner, of Toledo, has been appointed assistant physician at the Northwestern Ohio Hospital for the Insane in that city.

OREGON.

Twelve out of sixteen physicians who were examined by the Oregon State Board of Medical Examiners were granted licenses to practice. The board held its annual meeting and election of officers, which latter resolved itself into a reelection of officers.

PENNSYLVANIA.

Dr. William B. Ulrich, of Chester, has resigned his position as chief surgeon of the Pennsylvania Military College. He recently celebrated his golden anniversary as a practitioner of medicine.

Philadelphia.

Dr. Albert Woldert has gone to the Pocono Mountains for a short vacation.

The will of Dr. John H. W. Chestnut, recently deceased, bequeaths the sum of $3000 to the Presbyterian Home for Widows and Single Women.

The new morgue has been completed and will be turned over to the city within the next few days. Arrangements have been made at this building so that the funerals may be as private as possible.

THROUGH THE BEQUEST of Edward T. Parker, the erection of a hospital has begun, to be known as the Parker Infirmary, which will be an addition to the Home for the Aged and Infirmed Colored Persons. It is to be three stories in height, will be finished in oak and will contain all the modern hospital appliances. The cost of the building will be about $13,000.

DR. D. BRADEN KYLE, who has just recently returned from abroad, was tendered a complimentary dinner at the University Club on the evening of August 29 by numerous friends. Those present were Drs. A. B. Kirkpatrick, William H. King, Justus Sinexon, C. C. Royce, Carle Lee Felt, Thomas W. Tait, T. D. Taggart, William Corson, E. L. Meyers, Leon Van Horn, and George Doyle.

MR. J. LEWIS GOOD, Chief of the Bureau of Health, announces that the city has never had a cleaner bill of health, so far as contagious diseases are concerned. For several successive days there were no admissions to the municipal hospital. There are, as a rule, between 200 and 300 patients, but at this time there are only 131. He considers this state of affairs as due in part to the energy of the health inspectors.

THE NUMBER of deaths for the week ending September 1 was 413, an increase of 41 over last week, and an increase of 77 over the corresponding period of last year. The principal causes of death were: Apoplexy, 11; nephritis, 26; cancer, 17; cholera infantum, 42; tuberculosis, 49; diabetes, 5; heart disease, 34; pneumonia, 19; marasmus, 24; septicemia, 3; suicide, 2. Contagious diseases were reported as follows: Diphtheria, 61 cases, 13 deaths; scarlet fever, 20 cases, 3 deaths; typhoid fever, 60 cases, 8 deaths.

SOUTH CAROLINA.

CISTERNS, tanks and water receptacles must now be placed above ground by a decree of the city council of Charleston. It is contended that the soil is contaminated and that the water in underground cisterns is easily pollutable. The vote of the council was almost unanimous.

TENNESSEE.

DR. EDWIN WILLIAMS was appointed by the Memphis city council, at a recent meeting of that body, to the position of chief sanitary officer of the Memphis board of health, vice Dr. J. L. Andrews, resigned.

SEVERAL CASES of smallpox have been sent into Memphis recently from Mississippi. The Memphis board of health sent its secretary, Dr. Haase, to Jackson, Miss., to confer with the state authorities with a view to preventing this practice, but no relief could be offered other than general vaccination.

TUBERCULOUS CATTLE have been shipped by a Memphis dairyman into Louisiana, and the health authorities of the latter state have been notified accordingly. Thirty-six cows were quarantined on the farm of the dairyman as tuberculous suspects, autopsies made on five of this herd showing tuberculous lungs. The milk from these cows was found also to be literally alive with tubercle bacilli, and injections of tuberculin gave the customary reaction. The cattle were condemned by the city and county boards of health, and were shipped by the dairyman during the night to New Orleans in order to prevent the loss of his herd.

VERMONT.

THE RESIGNATION of Dr. A. P. Grinnell, of Burlington, from the chair of practice of medicine in the medical department of the University of Vermont, after twenty-five years of faithful service, was accepted, after he had declined to consider the emeritus professorship.

WISCONSIN.

"DR." O. L. ELLIS, of Clark County, the proud possessor of a diploma from the "Independent Medical College," of Chicago, has been fined $25 and costs at Tomah for practicing medicine without a license, and in default of payment now languishes in jail.

THE COMMITTEE on county hospital for Milwaukee has recommended the erection of a new building to cost $60,000, the remodeling of the old building to bring it up to the requirements of modern medicine, and that an isolation cottage be constructed.

CANADA.

THE WESTERN MEDICAL COLLEGE at London has been obliged to provide new buildings, owing to the increase in the number of its students.

A HOSPITAL is expected to be built in White Horse, Yukon, and in operation before cold weather sets in. Of the $2500 required to build and equip the hospital, about $800 was subscribed on the first appeal and the rest is in sight.

CANADIAN MEDICAL ASSOCIATION.

The profession throughout Canada has just received the provisional programs of the coming meeting of this association in the city of Ottawa on the 12th inst. Together with these has also been sent each member of the association a neat brochure containing the constitution, by-laws and ethics of the Canadian Medical Association, with a supplementary history of the respective officers of the association since its inception in the first year of the confederation, in 1867. A perusal of the program shows that many eminent men in the profession in Canada and the United States are to be present and take part in the proceedings, among others being Professor Shattuck, of Harvard, who is to deliver the address in medicine; Nicholas Senn and Webster, of Chicago; Gerster and Allan McLane Hamilton, of New York; Gairdner, of Montreal, and McPhedran, of Toronto. The address in surgery will be delivered at 8:30 p.m. the first day by Mr. Edmund Owen, the distinguished surgeon of London, England. On the evening of the second day the distinguished visitors and the members of the profession throughout the Dominion will be banqueted at the Russell House by the profession of the city of Ottawa. Dr. R. W. Powell, the president, and Dr. W. H. Klock, the local secretary, have all the arrangements well in hand and it is expected that the 1900 meeting will eclipse all previous gatherings. The premier, Sir Wilfred Laurier, will deliver an address of welcome on behalf of the Dominion, and Sir Charles Tupper, the leader of the opposition in the House of Commons, is also expected to be present and deliver an address. During the first three years of the association's existence Sir Charles was its executive head. Intimation has already been received by the local committee that every province of the Dominion will be fully represented, and Toronto and Western Ontario promise to send down a large delegation.

CONCERNING TORONTO'S WATER-SUPPLY.

During the hot wave the taste of the city water became very unpalatable and numerous were the complaints from the citizens of the quality of the water-supply and the temperature thereof, which had reached to 66 degrees. Consequently the medical health officer requested Professor Shuttleworth to make an analysis of the city drinking water. It is certainly gratifying to learn from this report that there need be no apprehension of an outbreak of typhoid, as Professor Shuttleworth reports that the quality of the water is first-class, and from a bacteriological standpoint is excellent. During the month of July the average number of colonies per cubic centimeter was 128, which compares favorably with that of previous years.

WILL THE PLAGUE REACH CANADA?

Since the report of the outbreak of the plague in Glasgow, this is a question which is uppermost in the minds of many Canadians. The secretary of the Ontario board of health has been interviewed in the matter and has given his opinion on the subject. Whilst Dr. Bryce is of the opinion that the disease may possibly invade some of the coast cities of the United States, the danger to the Canadian Atlantic ports is not so great, as being essentially a wharf disease, it spreads with fearful rapidity in the closely-populated dock districts of great cities. Toronto, without slums and with plenty of open spaces, would not afford a good foothold for the plague, but Montreal, with its closely-built districts, is not so favorably situated, and if the disease should once pass the quarantine station and reach Montreal it might be serious. He considers, however, that Canada's greatest danger lies in the Chinese quarters in the British Columbia cities, where they have four thousand Chinese within a few blocks.

SICK AND WOUNDED IN WAR.

Surgeon-Major William Nattress, of Toronto, has just published in pamphlet form a lecture delivered by him last March before the Canadian Military Institute of this city. It appears at an opportune time, when the country has such vital interests at stake in the South African campaign. In the introductory remarks, Dr. Nattress deals with the sentiment of the fifteenth and the early part of the sixteenth centuries, and then follows a review of the facilities which an army in the field has at the present day for the removal of the sick and wounded. He referred to the practical, though perhaps novel, method by which the military surgeon would utilize the traffic of a great city like Toronto in case an emergency should arise for so doing. Whilst our military surgeons sometimes deplore the absence of ambulance wagons in the service, he views this with less alarm when he sees the numerous and countless milk-wagons and vans.

LONDON LETTER.

COMMISSION OF INQUIRY INTO THE SOUTH AFRICAN HOSPITALS.

The government has appointed a commission of five members: Judge Power, Dr. Church, president of the Royal College of Physicians; Professor Cunningham, of Dublin; Sir D. Richmond, and Mr. Frederick Harrison, to inquire into the arrangements for the care and treatment of the sick and wounded during the South African campaign. At first Mr. Balfour proposed to have only the first three members, but the cry was raised that the medical profession, which it was felt was incriminated by the charges of Mr. Burdett Coutts, should not have a preponderating voice on the commission. The evidence taken in England has disclosed the deadly influence of red tape and the effete prejudices which dominate that stronghold of British conservatism, the War Office. I venture to prophesy that it is here the weak point will be found. The medical staff of the army has done its work manfully and in the face of difficulties and dangers, but it is subject to an obsolete system which discipline absolutely prevents it from criticizing. General Sir H. Brackenbury, director-general of ordnance, said in his evidence that the reserve of hospital equipment at the outbreak of the war was inadequate. Just before the outbreak there was a reserve of only one base hospital of 520 beds, and two stationary hospitals of 110 beds each. The under-secretary for war said that the army medical department had no executive authority, but whatever was required in the field had to be granted by one of four high military officers of the war office: adjutant-general, quartermaster-general, inspector-general of fortifications or director-general of ordnance, and while, speaking generally, all its applications were granted, they were usually referred to the army board! This is a beautiful specimen of the spirit in which the war office treats the medical department of the army. Another defect of the same kind, pointed out by Mr. Watson Cheyne, is that the army medical department is not provided with its own independent transport. Application must be made for wagons and animals in all cases when any movement is to take place, and the result is that frequently such transport is not available, or if available can only be supplied to a limited extent. To be thoroughly efficient in the field the army medical department should have their own transport. They have been urging this on military authorities for some years. Indeed, a great deal of difficulty at Bloemenfontein would have been avoided if the department had marched with its own transport from the Modder River. The field hospital which did the best work in the field was the New South Wales ambulance, which had its own equipment. The fact is, the whole system of the military clique at the war office is and has been to treat the medical department as an inferior caste. The evidence of Mr. Rudyard Kipling on this serious subject was rather amusing. He went to a hospital at Cape Town and asked the physicians if they wanted anything. The reply was: "No, we have everything." He then interrogated the nurses, telling them that he could get anything they required out of the "Absent Minded Beggar Fund." One replied "We want pajamas very badly, but don't bring them to the store-issue department. or they will never come out. Bring them to the back door." In this manner he smuggled 98 pajamas into the hospital. The same thing occurred in two other hospitals. The commission has now sailed for South Africa, where they will continue their inquiry.

SCANDAL AT THE NATIONAL HOSPITAL FOR THE PARALYZED AND EPILEPTIC.

A serious scandal has arisen in connection with the management of the greatest hospital in the world for nervous diseases, The National Hospital for the Paralyzed and Epileptic. For ten years grave differences have existed between the staff and the board of management, which has always refused the very moderate request of the staff for two seats on the board. In all except two of the metropolitan hospitals, having 100 beds or more, the staff is represented on the board. The staff alleges, that various details in the hospital management are unsatisfactory; the diet is insufficient and the nursing staff deficient in numbers. The board appointed a sub-committee to inquire into these charges, and it reported that there was no defect in the hospital management of any importance. It has absolutely refused the request for representation by the staff on the grounds that the conduct of a member of the latter might be questioned and that it would not, therefore, be proper for him to sit in judgment on himself. Matters have now reached an acute stage. The staff declares that further representations to the board are useless and has appealed to the public through the press, demanding an independent inquiry into the hospital management.

TUBERCLE BACILLI IN RAILWAY CARRIAGES.

At the Public Health Congress in Aberdeen, Professor Hamilton read a very remarkable paper on the dangers of spreading disease by vehicles of transport. He remarked that although this country had always been in the van of scientific progress, it had not awakened to the danger of disseminating contagion by dust impurities. It was impossible to say to what extent the spread of influenza, diphtheria and tuberculosis was due to insanitary vehicles. The so-called cleaning of railway carriages only meant the stirring up of disease germs. A number of experiments made with the dust taken from the floors of twelve railway carriages showed that two, which were both smoking carriages, contained tubercle bacilli. To prevent the broadcast dissemination of disease the flooring of railway carriages should be removable, the cushions detachable, and the carriages so constructed that they could be periodically cleaned and disinfected.

MOSQUITOES A CAUSE OF ELEPHANTIASIS.

The second malarial expedition of the Liverpool School of Tropical Medicine has telegraphed from Bonny, in Nigeria, an important discovery, viz., that the filaria which causes elephantiasis, like the malarial organism, is found in the proboscis of the mosquito. The same discovery appears to have been made in England by Dr. Low, of the London School for Tropical Medicine, in mosquitoes brought from Australia.

INOCULATION AGAINST CHOLERA AND TYPHOID FEVER.

A parliamentary paper, recently issued, contains some interesting facts on this question. Anticholeraic inoculations were practiced by Haffkine in Bengal in 1896. According to his statistics, among 654 uninoculated cases there were 71 deaths—10.8 per cent.—whereas in 402 inoculated there were only 12—3 per cent. In the British army in India over 2000 men have been submitted to the antityphoid inoculations devised by Professor Wright, of Netley. Of these only a few—5 or 6—contracted typhoid fever subsequently. Typhoid fever is a matter of serious concern to the government of India The admissions of British soldiers to hospital have risen from 18.5 per 1000 in 1890 to 32.4 in 1897, and the death-rate has increased from 4.9 to 9. The government has come to the conclusion that antityphoid inoculations have been shown to provide an immunity equal to or greater than that obtained by an attack of the disease, and that the operation is not attended with risk. It therefore recommends a more extended trial, which is now being carried out.

Marine Hospital Notes.

The commissioned medical corps of the Marine-Hospital service has been considerably added to during the past two years and now consists of 107 medical officers—1 supervising surgeon-general, 29 surgeons, 21 passed assistant-surgeons, and 56 assistant-surgeons.

A great many inquiries are being received in the office of the Surgeon-General from physicians desiring to take the examination for admission to the medical corps. Twelve completed applications are on file, and the medical profession will be duly advised through the columns of The Journal when the date and place of meeting of the next examining board are determined.

ACCESSO PERNICIOSO BERIBERI IN RIO JANEIRO, BRAZIL.

An interesting report has been received by the Surgeon-General of the Marine-Hospital Service from Acting Assistant-Surgeon W. Havelburg, on duty at the port of Rio Janeiro, Brazil. The report is dated July 16, 1900, and gives a general summary of the mortality in and about the city of Rio Janeiro for the six months ended June 30, 1900. He speaks of the disease "accesso pernicioso," which term is used so frequently in the reports from Spanish-American countries, and states that it is a disease of uncertain classification, which may embrace yellow fever, malaria, sunstroke and others of which there is no diagnosis, the term being used in spite of all criticism by physicians. He states that beriberi was formerly not an important factor in the death-rate of Rio Janeiro, but that during the six months for which report is made there occurred in that city 75 deaths from this disease.

NATIONAL QUARANTINE IN HAWAIIAN ISLANDS.

The quarantine service in the Hawaiian Islands is now under the control of the Marine Hospital service. The island and buildings formerly used as a quarantine station at the port of Honolulu have been turned over to the Marine-Hospital service and are being repaired and remodeled in accordance with modern ideas. Honolulu will ultimately have a complete and extensive quarantine plant. Inspection stations have been established at the parts of Hilo, Kahului and Kihei. The commissioned officers of the Marine-Hospital Service in Hawaii are Surgeon D. A. Carmichael and Assistant-Surgeons J. W. Kerr and John W. Amesse. Congress has appropriated $75,000 for the quarantine service during the present fiscal year.

PRECAUTIONS AGAINST YELLOW FEVER.

On account of the appearance of a few cases of yellow fever at Bocas del Toro, Colombia, one of the fruit ports of Central America, the city of Mobile has declined to receive passengers from any of the Central American fruit ports. The city of New Orleans requires detention of fruit vessels bringing passengers from such ports. This has led to a cessation of all passenger travel by water from the fruit ports of Central America to the southern cities of the United States, and has thereby lessened, in large measure, the danger of introduction of yellow fever to such cities.

STATUS OF BUBONIC PLAGUE AT RIO JANEIRO.

A report received from Acting Assistant-Surgeon W. Havelburg, U. S. Marine-Hospital Service, stationed at Rio Janeiro, Brazil, dated July 24, 1900, states that from July 16 to July 24, inclusive, a period of nine days, there occurred in that city forty-one cases of bubonic plague, with nineteen deaths.

HAFFKINE'S AND YERSIN'S SERA.

The Surgeon-General of the Marine-Hospital Service has received from Surgeon Rosenau a copy of a paper by Dr. A. Calmette, read at the International Congress of Hygiene and Demography, this month, entitled "Prophylaxis of Plague by Preventive Inoculations." In this article the author goes into detail as to the difference between Haffkine's prophylactic and Yersin's antipest serum, dwelling especially on the fact that the Haffkine prophylactic, while giving a larger period of immunity, is not to be used after the patient has been exposed to plague, or in any case in which it is probable that infection has taken place. On the other hand, after the disease has appeared, Yersin's antipest serum is the only efficacious remedy that may be employed, and it may also be used as a preventive, but does not confer so long a period of immunity as the Haffkine prophylactic. However, on account of its safety in all cases, it is recommended especially for use on boats, in lazarettos, hospitals and posts of observation.

MARINE-HOSPITAL SERVICE IN ALASKA.

The Marine-Hospital Service has just established a hospital for the relief of seamen at Dutch Harbor, Alaska, on Unalaska Island, with Assistant-Surgeon Dunlop Moore in charge. Dr. Moore has also been detailed, under executive order, to establish a national quarantine there, and has Assistant-Surgeon Carroll Fox as his assistant. Under the same executive order, Assistant-Surgeon B. H. Earle has been made national quarantine officer for Cape Nome, Alaska, with Assistant-Surgeon Bolivar J. Lloyd as his assistant. The latest report from Cape Nome, Alaska, is contained in the following telegram:

> Nome, Alaska, Aug. 6, 1900, via Port Townsend, 18th.
> Six cases smallpox here in isolation. All convalescent. Systematic inspection last week found 12 cases measles, 18 pneumonia, no typhoid, no smallpox.

QUARANTINE STATION AT HAVANA, CUBA.

The former Spanish quarantine station near the village of Mariel, Cuba, twenty-one miles from Havana, has been transferred by the military authorities to the jurisdiction of the Marine-Hospital Service, and extensive repairs and alterations have been made, with a view to perfecting the efficiency of the station. It is situated on a small, land-locked harbor, capable of admitting deep-draft vessels. There is salt water on two sides of the reservation, while at the rear it is separated from the mainland by a stone wall eight or nine feet in height. The reservation contains eighteen buildings and can accommodate 800 persons. If necessity demanded, this number could be increased to 1500. Modern steam chambers and other disinfecting machinery have recently been shipped to Havana for installation at the Mariel station. A force of attendants is kept constantly at the station, so that vessels may be referred there for disinfection from Havana or other ports of Cuba. This station forms a valuable adjunct to the equipment in the harbor of Havana.

YELLOW FEVER IN CUBA.

Yellow fever has not been widely prevalent in the island of Cuba the present season, but there have been a considerable number of cases in the city of Havana and at Santa Clara. A few cases have occurred at Pinar del Rio. The chief quarantine officer for the island of Cuba, Surgeon A. H. Glennan, has been attached to the staff of the governor-general, and exercises supervision over all of the quarantine stations in the island. A very efficient system of quarantine has been established by Surgeon Glennan and his predecessor, Surgeon H. R. Carter, which undoubtedly has been of great benefit to the island of Cuba, and has also prevented, up to the present time, the introduction of yellow fever from Cuba into the United States. In the harbor of Havana the floating disinfecting steamer *Sanator*, the finest plant of the kind in the world, is anchored. In addition to this, a shore disinfecting plant is in constant use. All baggage leaving Havana for the United States is now disinfected, and all baggage leaving other ports of the island for the southern states is disinfected. A complete floating disinfecting plant is now in use at the port of Santiago and three other plants will soon be completed for use at the ports of Cienfuegos, Matanzas and Nuevitas, respectively. These several plants will be so disposed along the coast of Cuba that it will be convenient to refer infected vessels from any port on the coast to one or the other of the cities where the plants are located. Vessels disinfected in Cuba in accordance with the United States quarantine regulations, and receiving a certificate to that effect from the medical officer of the Marine-Hospital Service, are, upon arrival at ports of the United States, considered as having been under observation during the time which has elapsed at sea since disinfection, provided no illness of suspicious nature has occurred on board, and thus their time of detention at the quarantine stations of the United States is much lessened. This lessening of detention at quarantine stations of the United States has been a great help to commerce, while at the same time affording as great or greater protection to the United States than under the former methods.

PLAGUE IN SAN FRANCISCO.

The summary of the plague situation in San Francisco, to and including August 18, is as follows: On June 14, Surgeon Kinyoun reported that from March 7 till June 2 there had been in San Francisco 11 deaths from plague, in 10 of which the diagnosis was confirmed by bacteriological investigation. There were at that time three cases of plague under observation, one of which he was positive was genuine, and which bacteriological investigation conclusively proved to be genuine. July 7, another fatal case was reported as having been admitted to the city hospital under the diagnosis of typhoid fever. Cultures from these cases have been made by the board of health of San Francisco, the State Board of Health of California, and the quarantine officer of Victoria, B. C. On August 18 one more case was discovered, in which the microscopical examination gave confirmatory results. By this summary it may be seen that there were 9 cases in the months of March, April and May, 4 cases in June, 1 in July, and 2 in August, 16 cases in all. This week's "Public Health Reports" contains a very interesting article entitled "The Haffkine Prophylactic and Anti-Pest Serum, the Haffkine Prophylactic against Plague and a *comparison of its Action with Antiplague Serum*," by P. A. Surgeon H. D. Geddings.

INFECTIOUS GASTROENTERITIS IN CONSTANTINOPLE.

The surgeon-general of the Marine-Hospital Service has received a report from the representative of the service in Constantinople, Dr. Spiridion C. Zavitziano, dated August 6, 1900, in which mention is made of a widespread epidemic of infectious gastroenteritis in that city. The disease is almost exclusively confined to children, and the writer makes the statement that not a single child has escaped the epidemic. Many adults have also been affected. The disease is known generally as "cholera nostras." During the month of May eleven deaths occurred from this disease, and during June, ninety-nine. Fifty-six deaths occurred from July 1 to 15. The cases treated by Dr. Zavitviano included about sixty foundlings, and no death occurred among them. The treatment was confined exclusively to the giving of cold baths, as many as twelve a day. In consequence of this treatment, the diarrhea is said to stop in ninety cases out of a hundred, without medication.

PLAGUE SITUATION IN GLASGOW, SCOTLAND.

On receipt of the first rumor concerning plague in Glasgow, orders were issued by the surgeon-general of the Marine-Hospital Service to P. A. Surgeon A. R. Thomas, on duty in London, England, to investigate the rumor and report. Dr. Thomas immediately proceeded to Glasgow and cabled, under date of August 30, 1900, that there had been one suspicious death and several suspicious cases in Glasgow; that the bacteriological examination had not yet been completed; that all contacts had been disinfected and were under medical observation, and that the disease existed in the crowded tenement district. The source had not been traced. On the following day another telegram was received, stating that the local board of health had declared that Glasgow was infected with plague, there having been eleven cases and one suspicious case. Dr. Thomas has been detailed for duty in the office of the U. S. Consul at Glasgow, to inspect the shipping leaving that port for the United States and to issue bills of health in conjunction with the consul. Acting Asst.-Surgeon Hough has been ordered from London to Glasgow to assist Dr. Thomas, and Asst.-Surgeon John F. Anderson has been ordered from Vienna, Austria, to London to assume Dr. Thomas's duties during his absence. At present (September 4) there are reported to be ninety-two persons in Glasgow, either sick with plague or suspected and isolated.

Influence of Menstruation on Gastric Functions. Elsner has been investigating the influence of menstruation on the functions of the stomach and finds that, while the motility is not affected, the chemistry varies from deficient to excessive acidity in many cases. In only five out of the fourteen cases examined were the gastric functions the same during menstruation as at other times. He concludes his communication in [illegible] *Arch. f. Verd. V*, 4, by calling attention to the possible sources of error in investigating the chemical functions of the stomach during the menstrual period.

Correspondence.

Why Do the Quack and the Faith Curist at Times Succeed.

CLEVELAND, Aug. 31, 1900.

To the Editor:—An exhaustive answer to the above query is not contemplated, as it would greatly transcend the limits of this note, but it is proposed to draw attention to two very chief factors in the success of the irregular, of the "christian scientist," and of others of the prolific breed of "curists." One of the causes is wholly without the influence of the medical profession, being deep-rooted in the inherited mental processes of all mankind, while the other is entirely within the power of the profession to eliminate.

First, as Ratzel, in his "History of Mankind," well says in speaking of the Chinese: "Superstitious medicine is one of the deepest-seated disorders of the human mind, of which perhaps it will never quite be cured." This ingrained, often subconscious, but almost always alert, substratum of belief in the intervention of supernatural agencies in the cure of disease and in the relief of suffering is honestly inherited from our savage forefathers, who made night hideous with the din that was to drive away the evil spirit which had caused the sickness, and whose barbarous attempts to aid the sufferer frequently contributed to the fatal ending, even as now does the neglect of the "faith" devotee. Until knowledge of the natural phenomena of the human body is much more widely diffused—slightly prior to the millennium—the mass of mankind will have an unreasoning and implicit trust in the efficacy of the occult in healing disease. During the next two eons physicians perforce will continue to exercise charitable sympathy with the foibles of the public in matters of health. The thorough study of the life-processes thus far known to us is already so intricate that large numbers of physicians have but a smattering of it, and really make their diagnoses and administer their drugs in a fashion but little removed from that of the "medicine man" of ancient days. However, this class is steadily being superseded by men trained in true physiology.

In the second place, there is a matter that lies to our hand every day and that tends constantly to add recruits to the clientèle of the "healers" of various descriptions and of incongruous designations. Stress of financial need and thirst for reputation lead some of our younger surgeons and gynecologists, together with a few of the older ones, all too often to recommend an operation for the relief of conditions that might well be cared for otherwise; and sometimes, be it said in sadness, for the promised cure of lesions whose existence is apocryphal. What is the result? The patient feels that the occasion does not warrant the danger and expense of an operation, and so drifts along unaided to finally fall into the hands of a "curist" of some breed, to receive the necessary stimulus to renewed mental, and consequently, bodily vigor. This patient then naturally becomes an opponent to scientific medicine, even though he may subsequently relapse and require the aid of a physician. While this is happening every day, it is unnecessary. Physicians who recommend radical methods before giving a thorough trial to gentler means administered with common sense and along with hearty encouragement to the patient, are heedlessly doing their profession, and so themselves, a very great injustice. We must make a living out of our profession, but if we do it at the expense of exact honesty to our patients, we shall have done very badly by the profession to which we owe our education. Slipshod ways of practicing medicine are responsible for a very great deal of the quackery and voodooism that steadily flourishes in our midst.

In our wrathful characterization of those who prey upon the superstitious gullibility of people who are not very sick, let us not forget that most dramatic scene when it was said: "He that is without sin, let him first cast a stone." If we **persist** in indiscriminately recommending the removal of [illegible] for [illegible] ure of [illegible] in doing ventro- [illegible] ing every case [illegible] belly that [illegible] ents find a temporary relief in the gentler hands of the irregular. All of these operations and radical procedures are of inestimable value in their proper place, but we must have a care to advise them only when the conditions imperatively demand it.

In this no disrespect is intended toward the most progressive branch of modern medicine—surgery. On the contrary, it is not the trained surgeon who is at fault in this matter, but the doctors of medium education and limited experience, whose self-confidence leads them to the belief that they are competent to make a surgical diagnosis and to operate. It is the amateur operator, if the expression is permissible, who is chiefly responsible for an unduly large proportion of the best material of the irregulars. The man of lesser experience has not yet learned, or else forgets, that to a very considerable proportion of the laity the word "operation" is in itself possessed of unknown terrors. This dread of radical procedure, even in cases in which it would very probably be beneficial, often is responsible for the drift of the ill-informed and unfortunate patient into the arms of the irregular. Great care should be exercised in recommending radical measures, especially if the physician or surgeon has not known the patient sufficiently long to have fully obtained his confidence. Especially is this true of the younger man, for in the case of the surgeon of well-established reputation his advice, even to a strange patient, comes freighted with the full power of suggestion, and the recommendation of even extreme methods is received with due respect.

It is hoped that these statements will not be received as an indication of a propensity for fault-finding, for they are meant simply to point out one observed manner in which many of us are furnishing recruits to the army that follows the quack and the faith-curist and the patent-medicine man.

P. Maxwell Foshay, M.D.

Dr. Jacobi's Address and Sectionalism.

Greenville, S. C., Aug. 23, 1900.

To the Editor:—As a Southerner I may be excused for taking exception to an altogether gratuitous comment on the South, which appeared in your issue of August 18 last—this, too, by one whose eminence, not to say years, should have put him beyond the pale of provincialism. I refer to the words of Dr. A. Jacobi, the venerable and, I doubt not, venerated source of much that has contributed to the advancement of our science. On page 427 is the following: "The greatest refinement of the East, the wild naturalism of part of the far West, the abject animalism of part of the South, are covered by the same flag." Now, there is, of course, great refinement in the East; and there is also "abject animalism," and plenty of it, in the South. But anyone who knows both peoples knows it is equally true that there is "abject animalism," and plenty of it, in the East, and "great refinement," and no lack of it, in the South. It is not, then, the actual expression to which the Doctor gave tongue that is objectionable, but the inferential and insinuating quality of his remarks addressed to those good people across the water who know us not, save as existing, and who quite naturally accept the imputations and inferences of an eminent American as authoritative and indisputable. To say the least, it was an unfair advantage for the Doctor to take—to contrast the highest stratum of society in his own section with the lowest in his brother's section, and give the impression to his hearers that that difference constitutes the difference of the two sections—and no one present to deny his insinuations.

It may be that I am doing the learned gentleman an injustice in thus alleging a "no fair" play, but in that event his remarks were the outcome, then, of carelessness, or of ignorance of existing conditions, either of which is reprehensible under the circumstances. J. Wilkinson Jervey, M.D.

Mailing of Sputum.—The Belgian postoffice department has issued an order that all sputa and such substances to be sent by mail for bacteriologic examination must be put up in thick glass bottles, sealed and inclosed in strong wooden or tin boxes, filled with sufficient soft material to absorb the contents if the bottle should be broken. It is also suggested that the nature of the contents should be indicated on the label.

Book Notices.

The Law in Its Relation to Physicians. By Arthur N. Taylor, LL.B., of the New York Bar. Cloth, pp. 550. Price, $2.00. New York: D. Appleton & Co. 1900.

This little volume has appeared largely as separate articles in the *New York Medical Journal*, but in its collected form its publication is a service to the profession. The author takes up the various subjects that interest the physician in their relation to the law and gives in clearly stated, perfectly intelligible form what we must consider the accepted legal views in regard to them without obscuring them by any unnecessary phraseology or technicalities. The subjects of the rights of the physician and the rights of the patient are fully discussed and the general trend of the law is on the whole one that is somewhat comfortable for the physician to appreciate. It is commonly said that human law is the perfection of wisdom; as medical men we often have reason to see applications of it where this statement is practically reversed, but this fact is due largely to the idiocy of judges and especially jurors. In this country it would seem from recent decisions that we are better off than in Great Britain, and this book bears out this view. It is small, convenient, condensed, and in every way handy, and if, as we assume, correct in its legal statements, a very valuable and convenient hand-book for the average practicing physician on its subject.

Forty Years in the Medical Profession. 1858-1898. By John Janvier Black, M.D., member of the College of Physicians of Philadelphia. Cloth, pp. 498. Price, $3.00. Philadelphia: J. B. Lippincott Co. 1900.

This book is a disappointment; it is not exactly what one would suppose it to be from its title. The author starts out as usual with personal history, reminiscences of different prominent physicians he has met in his student life and since, but as the book progresses he covers nearly every subject in medicine, hygiene, etc., that could possibly be brought in. It shows a wide range of knowledge, or reading, and is, on the whole, entertaining and likely to interest the average layman, though, for the reason stated, it will not be so directly edifying to the physician, who should already know a large part of the information the book contains. As might be expected, the author uses the easy narrative style, without special attention to perfect accuracy in minor points, and once in a while his grammar slips. His facts also, though mainly reliable and accurate, suffer somewhat in the same way, as for example when he states that gaultheria procumbens and mitchella repens are identical plants, probably because both are popularly called wintergreen. He gives a large amount of valuable dietetic information and is very full in his remarks in regard to the adulterations and sophistications of wines and alcoholic drinks, but he seems to omit the similar possibility in beer, since he says all lager beer is made of malt. Such inaccuracies as these appear throughout the book and to some extent mar its value. However, it will be found interesting reading and one could pick it up and pass a little time with it without suffering ennui. The information he gives in regard to pomology and kindred subjects will probably be new to many of his professional readers, while the layman will acquire a considerable superficial knowledge of many points in medicine from the perusal of the doctor's book.

A Memoir of Henry Jacob Bigelow, A.M., M.D., LL.D., surgeon of the Massachusetts General Hospital, etc. Price, $4.00. Boston: Little, Brown & Co. 1900.

Surgical Anesthesia, Addresses and Other Papers by Henry Jacob Bigelow, A.M., M.D., LL.D. Price $4.00. Boston: Little, Brown & Co. 1900.

Orthopedic Surgery and Other Medical Papers by Henry Jacob Bigelow, A.M., M.D., LL.D. Price, $4.00. Boston: Little, Brown & Co. 1900.

I. The Mechanism of the Dislocation of the Hip. II. Litholapaxy; or, Rapid Lithotrity With Evacuation, by Henry Jacob Bigelow, A.M., M.D., LL.D. Price, $4.00. Boston: Little, Brown & Co. 1900.

The first of these four books contains a biography of Dr. Bigelow; a memoir by Dr. Oliver Wendell Holmes; a tribute by Dr. Reginald H. Fitz; an account of the memorial meeting of the Massachusetts Medical Society; obituary notices, and various papers eulogistic of the life and work of Dr. Bigelow.

The second contains seventeen papers on anesthesia, published at various times between 1846 and 1876, the initial one being the first public announcement of the discovery of surgical anesthesia, and the one which carried the important news to Europe. Dr. Bigelow was one of the first to recognize the truth and the value of the claim made by Morton, and he was most persistent in bringing these views forward until they were accepted. These papers brought together in one volume make most interesting reading, especially for those who are curious to know how this remarkable discovery was received. In this volume also will be found other papers and addresses of a miscellaneous nature, among them being "Fragments of Medical Science and Art," a scholarly address delivered before the Boylston Medical Society of Harvard University in 1846; "Medical Education in America," being the annual address before the Massachusetts Medical Society, 1871; "Vivisection," a subject on which Dr. Bigelow held views in opposition to those held by a majority of the profession at that time and now, and a short paper, now first published, on "Execution by Hanging."

The third volume contains a reprint of Bigelow's "Orthopedic Surgery," an elaboration of the dissertation which obtained the Boylston prize for 1844, and various other medical and surgical papers on a variety of subjects.

In the fourth is printed the treatise on the "Mechanism of Dislocations and Fractures of the Hip," which has long been out of print. Shorter papers on the same subject are also reproduced. His work on the hip-joint is what first brought Bigelow so prominently before the profession in Europe. It was in this paper that he described the Y-ligament and pointed out the influence it had in determining the position of the femur when the caput femoris is dislocated, and that the relaxation of this ligament is the key to the reduction of the dislocation of the hip by manipulation. This volume also includes all of Bigelow's papers on litholapaxy—rapid lithotrity—the first of which was published in 1878. The new operation for crushing and removing from the bladder a stone, no matter how large, was bitterly assailed for a time, especially in England by Sir Henry Thompson, but it was soon accepted by all, and hailed as one of the greatest advances made in modern surgery.

Each of the four volumes is complete in itself, but all are bound in uniform style and make a fitting memorial to one of the greatest of American surgeons.

A Text-Book of Practical Therapeutics. With Especial Reference to the Application of Remedial Measures to Disease and Their Employment Upon a Rational Basis. By Hobart Amory Hare, M.D., B.S., professor of therapeutics and materia medica in the Jefferson Medical College, of Philadelphia. Eighth edition, enlarged, thoroughly revised and largely re-written. Illustrated with 37 engravings and 3 colored plates. Cloth, pp. 798. Price, $4.00. Philadelphia and New York: Lea Brothers & Co. 1900.

The previous editions of this work have a deserved reputation, and for this as well as many other reasons we need not say much in regard to the present volume; the fact that it has reached its eighth edition within ten years is sufficient evidence of its acceptability. A very large number of new facts have been added and it seems to us to be very full in the latest acquisitions to our knowledge. There is little doubt that it will retain the popularity which it so well deserves.

Transactions of the Kentucky State Medical Society, forty-fifth annual session held at Georgetown, May 9, 10 and 11, 1900. New series, vol. viii. Printed for the society, 1900.

The annual Transactions of the Kentucky State Medical Society, containing the papers, minutes, etc. of the meeting held in Georgetown last May, came to hand so much earlier this year than formerly that we unconsciously looked at the title-page to see if it did not bear the date of 1899. We congratulate the members on the radical change in this regard. The book contains some excellent papers, as it naturally must, since Kentucky is noted for having brilliant men in its medical profession. The society is in a prosperous condition, numerically, its membership exceeding 500. The book is a neatly gotten up volume.

Deaths and Obituaries.

Herbert Park, M.D., aged 23 years, born in Wigan, England, surgeon of the steamship *Granaense*, of the Red Cross line, died at sea on August 11.

Thomas Wall, M.D., late of Frederick County, Virginia, died in Carthage, Mo., August 21, aged 67 years. He was a surgeon in the Confederate Army during the Civil War.

Thomas J. Thorpe, M.D., of St. Louis, died August 11 from the effects of a gunshot wound accidentally received. He was graduated from Barnes Medical College, St. Louis, in 1895.

Eleazar W. Beebe, M.D., died at Elizabeth, Ill., August 25, at the age of 72 years. He was a graduate of Chicago Medical College in the class of 1867. He was a zealous prohibitionist and a prominent reform advocate.

William B. Waterman, M.D., died at his residence in Brooklyn, N. Y., August 20, aged 38 years. He was a graduate of the medical department of New York University in 1887, and on graduation received the Mott medal in anatomy.

George B. Mills, M.D., Pleasantville, Ohio, died at the Grant Hospital, Columbus, August 22, from shock following the removal of a malignant growth involving the entire superior maxilla, at the age of 75 years. He was graduated from Starling Medical College, Columbus, in 1871.

Francis Fenwick Smith, M.D., died in Frederick City, Md., August 26, aged 72 years, after several months' illness. He was graduated from the Jefferson Medical College, Philadelphia in 1854, and practiced at Bladensburg, Prince George's County, Md., from 1854 till 1863, when he moved to Frederick.

Ferdinand E. Chatard, M.D., of Baltimore, died at Atlantic City, N. J., August 27, from paralysis superinduced by heat exhaustion, aged 61 years. He was graduated from the University of Maryland School of Medicine in 1861, and after an interneship at the almshouse, he pursued his studies for three years in Europe.

Robert Alexander Randall, M.D., died at his home, Lewistown, Ill., August 19, from peritonitis, aged 42 years. He was a graduate of Rush Medical College in the class of 1881, and practiced for a time in Lewistown, but preferring a business to a professional life, he acquired an interest in a drug store, and for many years was at its head.

Charles E. Wehrle, M.D., died at the Toledo (Ohio) Hospital, August 21, from typhoid fever, at the age of 26 years. He was graduated from the University of Michigan medical department, Ann Arbor, had received an appointment as acting assistant-surgeon in the army and was awaiting orders to proceed to the Orient when he was taken ill.

David P. Chamberlin, M.D., died at his home in Toledo, Ohio, August 23, at the age of 75 years, from long-standing vesical disease. He was a graduate of the medical department of Western Reserve University, Ohio, in the class of 1847. He commenced practice in Hudson, Mich., but on the outbreak of war went to the front and served until he was invalided in 1863. He moved to Toledo and had since practiced there.

James Henry Robbins, M.D., Hingham, Mass., died suddenly August 22, aged 61 years, from neuralgia of the heart. He was a native of Calais, Me., a graduate of Amherst College in 1862, and of Harvard Medical School in 1867. He settled in Hingham in 1880. He was, in 1887, president of the South Norfolk District Medical Society.

Madison J. Bray, M.D., the Nestor of the medical profession of Vanderburg County, Indiana, died [illegible] ille, A[illegible] 22, aged 89 years. He was [illegible]rn in M[illegible] at Dartmouth [illegible] tution with honors in 1835. He came to Evansville in 1835 and resided there until his death. He was president of the State Medical Society in 1856, for many years a member of the local board of health, and was a charter member of the county medical society. He was for a time surgeon of the Marine Hospital at Evansville, and at the outbreak of war relinquished practice and recruited the Sixtieth Indiana Volunteers, of which he afterward was made surgeon. After two years he was forced to resign on account of ill health. At the close of the war he was appointed surgeon to St. Mary's Hospital, and held this position for several years.

DEATHS ABROAD

Dr. A. Bor, professor at Amiens, France, succumbed to the heat in Paris, August 1.

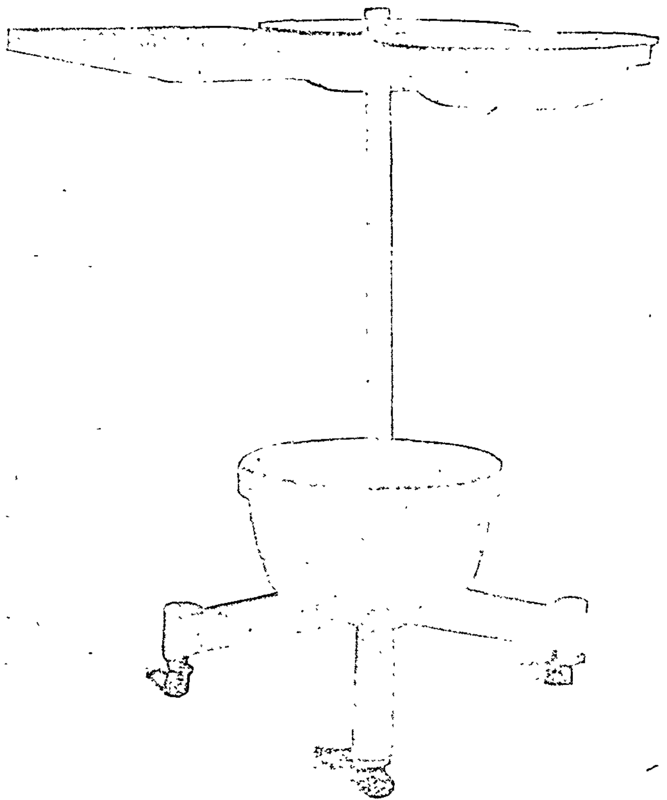
Dr. Paul Lieven, formerly accoucheur to the imperial court of Russia, died recently in his native town, Riga, to which he had retired a year or two ago, after a life of exceptional activity and honor in St. Petersburg.

New Instruments.

Combined Instrument and Sponge Stand and Sterilizing Apparatus.

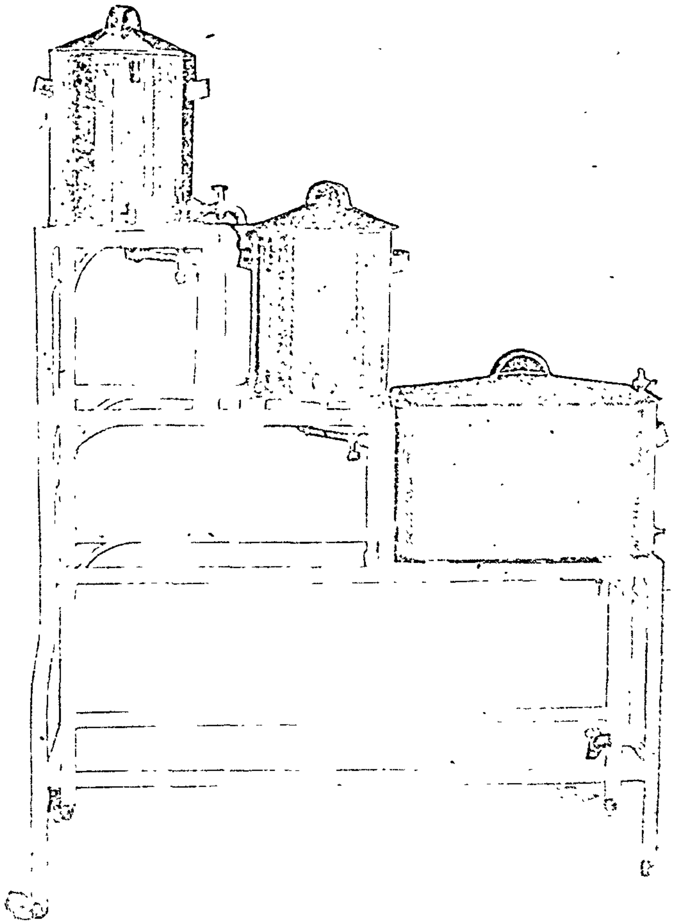
F. F. LAWRENCE, M.D.
COLUMBUS, OHIO.

The accompanying photographs show two satisfactory additions to the operating-room. The first is a combined instrument and sponge-tray stand. It consists of an enameled-iron leaf or table on one side for the instruments, and on the opposite of two rings which support two porcelain basins of large size. One of these is used for small sponges, the other for large ones. At the bottom of the stand is another ring supporting a deep basin, which is also of enameled iron. To the surgeon, who operates with little or no assistance, this table will be of especial advantage; the basin at the bottom is a receptacle for soiled sponges. In my work I handle all instruments, sponges, in fact everything, using no assistant. I place my instruments either in trays on the solid leaf or on a sterilized towel spread over the leaf—the table standing at my right—with the small sponges in the basin nearest me and the large ones in the other. When I have used a sponge, instead of dropping it into the drainage pan or elsewhere, which would make it difficult to count them, I immediately drop it in the deep basin at the bottom of the stand, and when I have finished my operation the count of the sponges is under my direct observation. The stand would be equally useful to the surgeon who operates with an assistant, the only difference being that the stand would be next to the assistant instead of the surgeon. It is the most satisfactory piece of furniture that I have ever used. It occupies but little space and is easily kept sterile.



Instrument and Sponge-Tray Stand.

The sterilizing stand is made of white enameled iron. Two water boilers of five gallons capacity each are made of heavy copper, each boiler being fitted with a water-gauge, which shows at a glance the amount of water in the boiler without uncovering. This gives ten gallons of sterilized water for use on very short notice. Under each boiler is a gas-burner, regularly connected, arranged so that we can use one or both burners at the same time. The sterilizer, which also has a gas-burner for its operating, is the most satisfactory and at the same time the most inexpensive sterilizer that I have used. It consists of a double copper boiler, the outer one larger than the inner, and connected together at the top so as to leave an enclosed space between the outer and inner jackets, of one inch and a half on the sides, ends and bottoms. This also has a water-gauge at one end, which shows the amount of water in the boiler. A valve, to the right and on top of the boiler, is so arranged that when starting the sterilizer it can be opened and a large amount of moisture driven off. Turning the valve half around directs the steam into a tube connected with the inner jacket, which carries it down the end and across the bottom to the center of the sterilizer; hence, it escapes through an opening three quarters of an inch in diameter into the sterilizer and among the dressings. *After sufficient sterilizing* by steam the valve is turned back to first position and opened, permitting the steam to escape and dry out any excess moisture that may have accumulated from the steam. Sterilizing thus gives practically a double sterilization, namely, that by steam and that by dry heat. I have used a sterilizer made upon similar principles to these for a number of years and it has been most satisfactory.



Sterilizing Apparatus.

Forceps for Holding Slides While Preparing Microscopic Specimens.

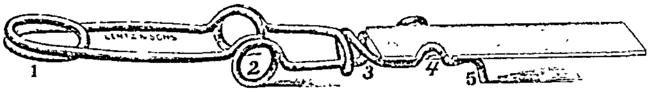
L. NAPOLEON BOSTON, M.D.

Bacteriologist to the Philadelphia Hospital and to the Ayer Clinical Laboratory of the Pennsylvania Hospital; Demonstrator in charge of Clinical Laboratory in the Medico-Chirurgical College.

PHILADELPHIA.

The rapid increase in the microscope's application to scientific study has necessitated that every microscopist collect specimens of all the interesting objects with which he may meet in laboratory work. Furthermore, it is far more satisfactory to preserve the original specimens as a referencee than to depend on notes, which, aside from the time employed in writing and reading, are always unsatisfactory. In the teaching of chemistry, botany, histology, pathology, bacteriology, and clinical microscopy it is necessary that the student prepare a specimen from each subject studied, both as a reference specimen and to demonstrate, beyond a doubt, that he has mastered this art. In board of health laboratories it is necessary to preserve specimen slides as an assurance against criticism, and for this reason most of the bacteriological work is now done by fixing and staining the specimen on the slides.

The leading objection to the staining of specimens on the slide has been that the management of the slide during the preparation of the specimen was difficult, often resulting in the staining of other structures. The need of a forceps to overcome this difficulty has beeen apparent to every laboratory worker, and such a forceps has been in use, by the writer, during the past year.



This forceps is made from a continuous piece of brass wire, which is nickel plated. The accompanying cut will serve to illustrate the forceps, with the slide locked in position. It will be seeen that the wire is so coiled (1) as to form a spring, which serves to hold the slide between the jaws of the forceps. The lateral coils (2) serve a double purpose, in that they are rests for the forceps and provide convenient places for the thumb and index finger during manipulation. The coil (3) at the base of the jaws is simply to hold them in position. The lateral clamp (4) seen on each jaw is provided with a groove so as to accommodate slides of various thicknesses; beyond this point the slide rests on the wire, which is bent (5) so as to support the forceps when the slide is locked in position.

By this forceps, slides are so held as to make their surface level, thus preventing liquid from changing its position when placed on the center of the slide. The forceps is also well adapted for holding the slide while fixing specimens and for staining with heat.

1524 Snyder Avenue.

Sterilized Dressing for Office Use.

D. H. GALLOWAY, M.D.

CHICAGO.

Every physician does at least a little minor surgery, and has in his office a quantity of dressings for this purpose. No matter how careful he may be to keep these dressings clean and antiseptic, they will at times become contaminated by handling and by contact with the outside of the container. This is inevitable if the doctor dresses his cases without the assistance of a trained nurse—as most of us do. Some doctors treat their dressings in a way the description of which would not look well in a medical journal. Surgical dressings should be kept in a box or jar which can be closed air-tight. A cheap container, which I use, is a half-gallon candy jar with a glass top fastened by a metal ring, which screws down upon it; a rubber-ring between cover and jar makes an air-tight joint. In the bottom of this jar under the dressings I keep a small wide-mouth bottle, which is lightly stuffed with absorbent cotton and the cotton is saturated with a 40 per cent. solution of formaldehyde. This keeps the air of the jar continually saturated with the gas and thoroughly sterilizes the contents of the jar between the times of opening for use. No obviously soiled dressings should ever be returned to the jar, but dressings apparently clean may be contaminated sufficiently to infect any clean wound on which they may be used. When the jar is empty I pour a few drops of formaldehyde on the cotton in the bottle and then fill the jar with the sterilized gauze as received from the manufacturer. I am never afraid to use the contents on fresh wounds, though the jar is opened every day for the dressing of all sorts of cases.

Miscellany.

Tuberculosis in Norway.—Dr. Claus Hansen, of Bergen, recently delivered a lecture before the Storthing, at Christiana, on the causes of tuberculosis and the fight against it. He stated that in 1896, 54.5 per cent. of all deaths between 15 and 30 years of age were caused by tuberculosis, and that about 7000 of the inhabitants of Norway die every year of this disease. During the thirty years of his own experience consumption has increased in the Bergen district 80 per cent.

Tuberculosis in Hawaii.—Owing to the alarming increase in the number of cases of tuberculosis in Hawaii, especially among the native Hawaiians and Japanese, the Board of Health of Honolulu is discussing measures directed toward strict quarantine against all tourists who may suffer from this disease. In 1896 the number of deaths from tuberculosis was 48. The number has steadily increased, there being 59 in 1897, 75 in 1898, 93 in 1899, and 114 for 1890.

Havana, Cuba.—Under date of August 14, the report of yellow fever progress during July shows thirty days for the month. The average for the July mortality from 1885 till 1895 reached thirty-four. Last year upward of 25,000 immigrants came to Havana, or thrice the normal number. Non-immunism as a factor, therefore, plays an important part in the calculated gain in the life economy, reducing the mortality in the decade quoted from 4.2 per 1000 to 1.2 per 1000.

Open-Air Marine Treatment for Consumption.—This treatment has been practiced with success for several years in southern Brittany. The Pen-Bron Hospital is used chiefly by working people, the cost of maintenance being provided by the commune from which they are sent. The success of this enterprise has led to the construction of a magnificent private hospital for well-to-do patients, which is built of granite, is near the sea, and is surrounded by pine forests. The hydropathic department comprises hot and cold sea-water baths and sea-weed baths, together with vapor, douche, rain, shower and medicated baths.

Infectious Diseases in Manila.—Major Guy L. Edie, president of the Manila Board of Health, in his report to the Surgeon-General states that smallpox has been prevented from spreading seriously by rigid inspection and vaccination. He proposes to segregate the lepers, who number about 30,000, on one island, where hospitals and other suitable buildings can be erected for their use. Several cases of bubonic plague were diagnosed as typhoid fever, but as soon as the real nature of the disease was discovered active measures were taken for its eradication by a house-to-house canvass made by 100 inspectors, most of whom were Filipino medical students.

Medical Students in Italy.—The total number of students in the faculties of medicine and surgery of the Italian universities during the present academic year (1899-1900) is 6388. They are distributed as follows: Naples, 2009; Turin, 783; Rome, 530; Bologna, 504; Pavia, 496; Genoa, 358; Padua, 309; Palermo, 270; Pisa, 218; Parma, 175; Catania, 167; Modena, 152; Messina, 128; Cagliari, 95; Siena, 81; Sassari, 54. In addition to these, there are three
iver
Camerino, which has 35 medical students,
and Ferrara, with 15. In the faculty of
Institution of Superior Studies at Fl
students.

New Appliance for Closing Wounds.—Bramson, of Copenhagen, exhibited at the International Medical Congress a little appliance which he finds extremely useful as a substitute for sutures in closing wounds. It can be applied in less than half the time and can be opened and the wound inspected at any time. It is merely a row of small trocars set in a small bar on each side of the wound, fastened with eyelets and buttons.

Prognostic Value of Iritis in Syphilis.—Trousseau's experience with forty cases of recurring iritis in syphilitics indicates that this complication renders the prognosis less favorable. The *Semaine Méd.* quotes his communication in the *Ann. d'Oc.* for May to the effect that in only 6 out of the 40 was the course of the syphilis benign. General paralysis appeared later in 3; tabes in 12; cerebral symptoms in 8 and fatal visceral or other severe symptoms not connected with the nervous system in the rest.

Ulcero-Verrucous Endocarditis.—T. Omeltshenko concludes from study of fifteen cases of acute endocarditis that the streptococcus is the chief agent, and that the endocarditis is only a secondary manifestation of the general streptomycosis. All the various types of acute endocarditis that have been described in literature are merely different phases of a single variety—the acute ulcero-verrucous deposits consist always of layers of fibrin and never appear elsewhere than on the ulcerated surface of the endocardium. The most rational treatment is with antistreptococcus serum.—*Russky Ark. Path.*, 3.

Resection of Upper Jaw With Imperceptible Scar.—Severeano exhibited at the International Medical Congress his method of incising the soft parts for extensive resection of the upper maxillary bone with the minimum disfigurement. The linear incision follows the outline of the nose where it joins the cheek, from the root to the median line of the upper lip, which is also incised perpendicularly. From the root of the nose a short horizontal incision is carried to the inner angle of the eye. It is extended inside the lower lid and continued outward on the same horizontal plane 3 cm. from the outer angle of the eye. The flap thus outlined turns back to an astonishing distance, while the line of sutures when it is replaced is comparatively invisible.

The Discoverers of Quinin.—A statue has recently been erected at Paris in honor of the French chemists, Pelletier and Caventou, who discovered quinin. They announced in September, 1820, the discovery of two essential principles in cinchona, to one of which they gave the name of quinin and established its therapeutic value on a scientific basis. It is interesting to note that Farr, of Philadelphia, was able to supply the American public with domestic manufactured quinin before the close of the year. The statue represents the two scientists in the faculty robes, and was erected by the subscriptions of the pharmacists of France. It was unveiled August 7 on the occasion of the International Congress of Pharmacy.

Extrauterine Pregnancy After the Fifth Month.—F. Jayle has observed in twenty-nine cases of tubal or intraligamentous pregnancy that the danger of serious complications diminishes after the first months of ectopic pregnancy. The death of the fetus at the ninth month is seldom followed by accidents. On the contrary, the patients who were not operated on at once, seemed to benefit by the delay, allowing time for retrogression of the placental circulation after the death of the fetus. In one of the instances mentioned in his article in the *Revue de Gyn*, for January-February, the pregnancy occurred in the middle portion of the tube, simulating the position of a normal pregnancy. In another case the nine-months' fetus had been dead six months before operation, but the extensive adhesions proved no obstacle to the total extirpation of the sac.

Papilloma of the Larynx in Children.—Boulay outlines the conduct to be observed, in an article published in *Arch. de Méd. des Enfants*, for May: the papilloma should be removed by the natural route if possible and the attempt should not be abandoned until every known measure has been tried in vain. If the respiration is not seriously affected, expectant treatment is indicated until the child has attained an age when confidence and docility may be anticipated. If there is dyspnea, tracheotomy should be done, a permanent tube inserted, and results awaited. The papilloma may disappear in consequence, but, if not, temporize if at an unsuitable age for operating, but if otherwise, thyrotomy should be done without delay.

Outdoor Life in Rocky Mountain Region for Incipient Tuberculosis.—A correspondent calls attention to the value of outdoor life for incipient pulmonary tuberculosis under such conditions as obtain in the Rocky Mountain region, and suggests that unfortunately a large majority of those who should avail themselves of the climate cure are unable to do so, chiefly for the reason that there is a lack of accommodations adapted to needs of tuberculous patients, and the expense, with no opportunity of self-support. It is true, he says, that there are a number of well-equipped and well-conducted sanitaria on the eastern slope of the Rocky Mountains, but the high rates charged virtually close their doors to the masses. Believing that there is great need of a practical plan by which those affected with beginning tuberculosis might avail themselves of this climate in combating the disease, he offers the following suggestions as a basis for such plan: 1. A system of stations, i. e., small, inexpensive farmhouses, at intervals of ten or fifteen miles, situated along the Rocky Mountain foothills, adapted to their intended use as stopping-places for patients who are to spend most of their time in leisurely and comfortably traveling up and down this system of stations. 2. Provisions of proper food and dietary for patients, chiefly fresh milk, butter, eggs, poultry, vegetables, etc. 3. Development of the plan of self-support for patients, such as gardening, fruit-raising, rabbit and poultry-raising, dairy produce, etc. 4. Development of a system of instruction and inspection that will thoroughly control all sources of infection from patients.

The International Medical Press Congress appointed a committee, consisting of de Maurans, Baudouin and Blondel, to open communication with representative editors, physicians and legislators in all countries to study the matter of literary property from a medical point of view. Baudouin remarked that illustrations can be considered as merely a series of printed characters arranged in a special manner, and consequently can be copied the same as the same area of printed matter, of course citing the name of the author or source. "The interests of science demand the reproduction of the illustrations with the article when required." The Congress devoted a long session to the question of the reproduction of articles and abstracts, formally passing a resolution to the effect that the name of the author, or of the periodical from which the article or abstract is taken, must always be cited. "This will stop the present piracy," Championnière exclaimed. It was particularly emphasized that every journal has the right to send a representative to the meeting of scientific societies and report the proceedings, but no journal has the right to copy the report from another journal, not even from the official bulletin of the society, without citing the source. Another problem pressing for solution is the competition with the journals issued by the manufacturers for free distribution, in which they laud their own wares and which it is to their interest to render as readable and entertaining as possible. In order to react against this condition of affairs the medical press must be established in its true rôle. The medical journal to-day has to contend with many difficulties, the lowering of the subscription price [we note, by the way, that the *Semaine Médicale* and the *Presse Médicale* have each reduced their rates since August 1 from 10 to 8 francs a year] and the increased expense of printing, publishing, editing, etc., but the chief difficulty of all is the transformation of medicopharmaceutic advertising circulars into pretentious, gratuitously distributed journals. The question of exchanges between medical journals was left to the discretion of the interested parties, with the proviso that they are always based on the absolute respect of literary property. The establishment of libraries in large cities where complete files of all the medical journals in the world can be kept for reference was "platonically" endorsed by the Congress, but also left to the discretion of the International Association. Another task entrusted to it is the unification of scientific terms the same for all nations, rejecting, as far as possible, the "proper name" terminology. The introduction of decimal classification of scientific subjects, as already exhibited in the new *Index Medicus*, published in Paris, is advocated by the young International Press Association, and Posner announces that after this year it will be formally introduced into the *Berliner Klinische Wochenschrift*. He observes, in an editorial, that it may at first seem complicated, but in reality it is extremely practical and has already stood the test of time in the libraries of the world. It enables a person of any nationality to grasp at a glance the tenor of the contents of a work. He hails it as an "important advance toward the consummation of a rational system of scientific reporting, which will be comprehensible with equal facility to persons of every land and tongue." The most complete report of the Press Congress we have received to date is in the *Progrès Médical* of August 4 and 11. The International Congress of Medicine has been ably reported in all the chief Paris journals, but the *Bulletin Médical* issued almost daily numbers of over thirty-two pages each, devoted exclusively to the Congress.

The Health of Manila.—An interesting report has been made by Major Guy L. Edie, surgeon U. S. Army, and president of the board of health of the city of Manila, P. I. Besides the several functions belonging to a board of health in supervising all works and conditions affecting the public health, the board has general supervision of charitable institutions, prisons and venereal hospitals and the direct control of the vaccin farm, municipal laboratories, chemical and bacteriological, which the board organized, free dispensaries and hospitals for leprosy, smallpox and bubonic plague. In matters of vital statistics, the board claims accuracy as yet only for its record of mortality. The work of vaccination has made its impress on the mortality from smallpox. For the nine months from October, 1899, till July, 1900, there were 7 deaths from smallpox in the city, while in the month of March, 1899, there were 75 deaths from this disease. The work of vaccination was effected with much difficulty, as the authorities did not consider it advisable to make vaccination compulsory. During the year 622,030 points of vaccin virus were furnished to the army and navy of the United States and to the native inhabitants of the archipelago outside of the city of Manila. In the city and suburbs 114,654 vaccinations were effected. The total number of deaths during the nine months, October, 1899, till June, 1900, inclusive, was 8535, of which 3507 were in children under 5 years of age. The population is variously estimated at from 350,000 to 600,000. During the same period diarrheal diseases caused 1073 deaths; tuberculosis, 992; beri-beri, 642; acute lung diseases, 631; malarial fever, 338; typhoid fever, 41; bubonic plague, 167; leprosy, 46, and smallpox, 7. Besides the 167 deaths recorded from plague a number averaging about 50 per month occurred in the Chinese quarter without medical attendance and unreported, some of which were probably due to plague. Only one death from plague occurred among Americans, and that in the case of a quartermaster's employe. The total number of cases of plague reported was 225, of which only 58 recovered. The opinion formed by Major Edie, from his experience of the past six months, is to the effect that little difficulty will be experienced in controlling the disease in any intelligent community with modern sanitary conditions. The board made early application to the government laboratories in Bombay for Haffkine's vaccin material. Some was obtained from the marine-hospital surgeon, who has also recently received some Yersin serum. It is almost impossible, without the use of force, to use the Haffkine vaccination on Chinese or natives. A thorough test has not been given to either of these materials, but the board has not been favorably impressed with them. Major Edie can not speak in too high terms of the absolute fearlessness, energy and cheerful coöperation of every medical officer associated with him in this work, nor of the faithful and efficient services of the men belonging to the hospital corps of the army on duty with the board.

Societies.

Coming Meetings.

The Canadian Medical Association, Ottawa, Sept. 12-14.

American Association of Obstetricians and Gynecologists, Louisville, Ky., Sept. 18-20.

Medical Society of the State of Pennsylvania, Wilkesbarre, Sept. 18.

Medical Society of the Missouri Valley, Council Bluffs, Ia., Sept. 20.

American Electro-Therapeutic Association, New York City, Sept. 25-27.

American Public Health Association, Indianapolis, Ind., Oct. 22-26.

Idaho State Medical Society, Boise, Oct. 4-5.

Utah State Medical Society, Salt Lake City, Oct. 4-5.

Wyoming State Medical Society, Cheyenne, Oct. 9-10.

Mississippi Valley Medical Association, Asheville, N. C., Oct. 9-11.

Tri-State Medical Society of Alabama, Georgia and Tennessee, Chattanooga, Tenn., Oct. 11-13.

Vermont State Medical Society, Rutland, Oct. 11-12.

New York State Medical Association, New York City, Oct. 16-18.

Medical Society of Virginia, Charlottesville, Oct. 23.

The Association of Hospital Superintendents elected, at their second annual meeting in Pittsburg, Pa., on August 22, the following officers: President, C. H. S. Howell, of Pittsburg; vice-president, Dr. F. E. Baker, of Newark, N. J.; secretary, J. S. Knowles, of Cleveland; treasurer, A. W. Shaw, of Detroit.

Orleans Parish (La.) Medical Society.—At the meeting of this society, August 25, Dr. Louis G. Le Beuf read a paper on "The Medical Diseases of the Kidney." Dr. Edward J. Huhner described an apparatus devised by him for the relief of talipes calcaneus, and Dr. Rudolph Matas reported a case of abdominal aneurysm treated by preliminary abdominal section followed by wiring and electrolysis.

Fourth International Dermatological Congress.—This congress, under the presidency of Dr. E. Besnier, which has been most successful in every way, has just ended. The next congress will be held in Berlin, with Prof. E. Lesser, Berlin, president. Drs. J. Nevins Hyde, Chicago, Henry W. Stelwagon, Philadelphia, and J. Caspar Gilchrist, Baltimore, who were present and read papers, extended to the members, in behalf of the American Dermatological Association, a cordial invitation to hold the next meeting in the United States. It seems, however, that Berlin had a claim for the congress this year, Paris having already had one previously; but at the last congress, held in London, the French representatives requested as a special favor, owing to this being Exposition year, that it be held in Paris. This was conceded, with the distinct understanding that Berlin should have the next. The American representatives, after learning these facts, gave their votes for Berlin. In return for this courtesy it was promised the United States representatives that the congress following that of Berlin should be held in New York.

Rocky Mountain Inter-State Medical Association.—At the second annual meeting of this society, held in Butte, Mont., August 28 and 29. the following papers were read and discussed: G. T. McCullough, Missoula, on "Gastric Fever Affecting Children"; A. M. Holmes, Denver, on "Some Problems Pertaining to Tuberculosis"; H. D. Niles, Salt Lake City, on "Diagnosis of Renal Calculus"; I. B. Perkins, Denver, on "Report of Abdominal Cases"; W. W. Bulette, Pueblo, on "Treatment of Acute Otitis Media"; John O. Polak, Brooklyn, N. Y., on "True Conservatism in the Treatment of Pus in the Pelvis"; J. F. Spellman, Anaconda, "Report of Three Interesting Surgical Cases"; W. W. Grant, Denver, on "Fractures of Elbow-Joint"; W. W. Woodring, Mt. Pleasant, Utah, on "Treatment of Variola"; George H. Barber, Helena, "An Unusual Case of Preputial Calculi"; John A. D

"Shall the Family Physician Do Refractions?"; E. P. Hersey, Denver, on "The Use of Pilocarpin in the Treatment of Inebriety"; I. N. Love, St. Louis, on "Some Points in the Management of Appendicitis, from a Medical Standpoint"; William Treacy, Helena, on "Interstitial Nephritis"; J. N. Hall, Denver, on "An Unusual Epidemic of Chicken-pox"; Hubert Work, Pueblo, on "Chorea Insanies"; S. D. Hopkins, Denver, "Clinical Significance of Tremor"; T. A. Grigg, Butte, on "The Use and Abuse of Glasses"; D. H. Coover, Denver, on "Excision of Upper Cervical Sympathetic Ganglion for the Relief of Simple Glaucoma"; Robert Levy, Denver, on "The Lingual Tonsil"; George W. King, Helena, on "Foreign Bodies in the Esophagus"; George H. Stover, Denver, on "Clinical Appearance of the Blood in Anemias"; A. A. Kerr, Salt Lake City, on "Observations on and Deductions and Generalizations from the Administration of About One Thousand Anesthetics"; E. A. Irwin, Boulder, Mont., on "Practical Points on Feeding the Sick"; C. K. Fleming, Denver, on "Treatment of Retro-Displacements of the Uterus"; T. D. Tuttle, Helena, on "Mastoiditis, When Does It Begin, and When Shall We Operate?"; John O. Polak, Brooklyn, N. Y., on "Infections of the Pelvic Organs in Young Girls"; B. C. Brooke, Helena, on "Double Operation for Undescended Testicle"; Edward Jackson, Denver, on "Principles of Asepsis Applied to Operations on the Eye"; Rudolph Horsky, Helena, on "Malpractice Suits and the X-Ray." Dr. C. K. Cole, Helena, delivered his address as retiring president.

Therapeutics.

For Ulcers.

℞.	Bromol	gr. xv	1
	Vaselini	℥i	32

M. Sig. As a local application. —*Phil. Med. Jour.*

Bromol is obtained by pouring an aqueous solution of bromin in an aqueous solution of phenol; a white, clear precipitate results. The crystals are insoluble in water, but very soluble in alcohol and in fatty and volatile oils.

Painful Menstruation.

℞.	Acetanilidi	gr. iii	18
	Caffeinæ citratæ	gr. ss	03
	Sodii bicarb	gr. iii	18

M. Sig. At one dose. To be repeated in one hour if necessary.

Floeckinger, in the *New Orleans Med. and Surg. Journal*, advises the following in cases of simple colds attended by pains in back and limbs.

℞.	Heroin hydrochlor	gr. 1/12	005
	Salophen	gr. x	66
	Sacch. lactis	gr. iii	18

M. Sig. One powder every two hours.

Wet and Dry Surgical Dressings.

1. A dry dressing is superior to a wet one in incised wounds.
2. In contused and lacerated wounds a wet dressing should be employed for a week or two, followed by a dry one.
3. In carbuncles, boils and infected wounds a wet dressing is indicated.
4. When pus has burrowed and sinuses exist, packing and a dry dressing are preferable.
5. In deep punctured wounds with a small orifice a wet dressing is best.
6. In all wounds of the scalp, whether infected or not we should use a dry dressing.

—R. M. Skillern: *Phil. Med. Journal.*

Creosotal.

Chas. F. Stokes, in the *Brooklyn Med. Journal*, reports seven cases of lobar pneumonia successfully treated by creosotal in conjunction with heart tonics. He noted a rapid fall in temperature following its administration. It was given in capsule, in doses of twelve minims every two hours. Creosotal is prepared from beechwood creosote and not from guaiacol. It is quickly absorbed, and is said to give less disturbance than creosote.

Enlargement of the Prostate Gland.

℞.	Potassii iodidi		
	Extracti hyoscyami āā	gr. ii	12
	Olei theobromæ q. s.		

M. Fiat suppositorium. —*The Prescription.*

Hemorrhoids.

The *Philadelphia Medical Journal* notes the following in treatment of hemorrhoids, by Dr. Boas, in *Centralblatt für Therapie:*

℞.	Chrysarobin	gr. 1/5	072
	Iodoformi	gr. 30/100	02
	Ext. belladonnæ	gr. 15/100	01
	Cacao butter	gr. xxx	2

M. For one suppository. Sig. Two or three may be used daily.

℞.	Ext. hamamelidis fluidi	℥i	32
	Ext. hydrastis fluidi		
	Tinct. benzoini comp. āā	℥ss	16
	Tinct. belladonnæ	ʒi	4
	Ol. olivæ (cum acid carbol five per cent.) q. s. ad	℥iii	96

M. Sig. Apply frequently to the parts. —*Med Bulletin.*

AS AN OINTMENT.

℞.	Chrysarobin	gr 1 1/5	072
	Iodoformi	gr ½	03
	Ext. belladonnæ	gr. 1/6	01
	Vaselini	℥ss	16

M. Sig. As an ointment two or three times daily.

Chrysarobin is a principle obtained from Goa powder, a concretion found in the stems and branches of Andira araroba. It is generally employed in ointment of 10 per cent. strength in treatment of various diseases of the skin. It is a light-yellow crystalline powder, very slightly soluble in water or alcohol but fully soluble in alkalies.

Hydrastis in Dysmenorrhea.

℞.	Tinct. hydrastis		
	Tinct. viburni prun. āā	℥iv	16

M. Sig. Ten drops every two hours, in water.

—*Gazette de Med. et de Chir.*

Gastralgia.

℞.	Chloralis hydratis	gr. iii	20
	Sodii hyposulphitis	gr. vi	40
	Aq. menth. piperitæ	ʒi	4

M. Sig. At one dose. Repeat as required by frequency of attacks, guarding against overuse of chloral.

Facial Neuralgia.

℞.	Butyl chloral hydratis		
	Alcoholis, āā	ʒiiss	10
	Glycerini	ʒv	20
	Aquæ destil.	℥iv	128

M. Sig. Half a soupspoonful to be taken daily.

—*Bocquillon-Limousin.*

Carbuncle.

℞.	Antipyrini	ʒiiiss	14

Ft. chart No. xx. Sig. One powder in water every two hours, or,

℞.	Ammon. carbonatis	ʒiiss	10
	Ext. coffee flu.	℥ss	16
	Syr. simplicis, q. s. ad	℥iv	128

M. Sig. One or two teaspoonsful every two hours.

—Shoemaker.

Acute Follicular Tonsillitis.

℞.	Sodii boratis	ʒiss	6	
	Potassii bromidi	ʒiss	6	
	Acidi carbol	m. xx	1	33
	Glycerini	ʒii	8	
	Infusi althææ q. s. ad	℥iv	128	

M. Sig. Use as a gargle four or five times a day.

—*Jour. de Med. de Paris.*

Acute Pharyngitis (Acute Sore Throat).

℞.	Decoct. althææ fol. (parts 1 to 10)	℥vi	192
	Tinct. opii	m lxxv	5

M. Sig. Use as a gargle four or five times a day.

Apply wet compresses to the neck; give the patient small lumps of ice to hold in the mouth. —*Exchange.*

Powder in Acute Suppurative Otitis.

℞.	Sodii biboratis			
	Sodii bicarb. āā	gr. i		06
	Amyli	gr. i		06
	Pulv. acaciæ	gr. iv		24
	Nosophen, q. s. ad	ʒi	4	

M. Sig. Cleanse thoroughly, then blow some of the powder in the ear. —*Exchange.*

Otorrhea.

℞.	Liq. plumbi subacetatis (Goulard's ext.)	m. xx	1	33
	Acidi acetici diluti	m. vi		36
	Vini opii	m xx	1	33
	Aquæ destil., q.s. ad	℥i	32	

M. Sig. Drop ten drops into the ear three or four times a day, previously warmed. — *N. Y. Med. Jour.*

Acute Orchitis.

℞.	Tinct. aconiti	ʒii	8
	Guaiacoli	℥i	32
	Glycerini	℥iii	96

M. Sig. Paint the scrotum with this solution night and morning and place over it a piece of gauze saturated with the above. Over this a layer of cotton covered by a piece of oil silk and support the testicle.

—V. Buchtel: *Louisville Jour. of Med.*

Lupus Vulgaris.

℞.	Hydrarg. ammoniati	gr. x		66
	Acidi carbolici	m. x		66
	Pulv. camphoræ	gr. x		66
	Ung. zinci oxidi	℥i	32	

M. Ft. unguentum. Sig. Apply locally. —*Med. Bulletin.*

Acute Gastrointestinal Catarrh.

℞.	Creosoti	m. xii		72
	Tinct. opii camphoratæ	ʒiv	16	
	Bismuthi subnitratis	ʒiii	12	
	Pepsinæ scales	ʒi	4	
	Syr. aurantii corticis	m. xxx	2	
	Aq. menth. piperitæ q. s. ad	℥iii	96	

M. Sig. One teaspoonful every two hours for a child of 2 years. Vary with the age and severity of the case.

—*Med. Record.*

Otalgia.

℞.	Quininæ sulphatis	gr. xviii	1	2
	Potassii iodidi..	gr. xxxvi	2	
	Sacchari albi	gr. xlv.	3	

M. Ft. Chart. No. vi. Sig. One twice a day.

IN CHRONIC FORM.

℞.	Zinci oxidi		
	Valerinæ radicis		
	Ext. hyoscyami alc., āā	ʒss	2
	Pulv. ext. glycyrrhizæ, q. s.		

M. Ft. pil. No. 100. Sig. One a day, increase from one a day up to thirty, then decrease. Politzer: *Med. Rec.*

Chronic Prostatitis.

℞.	Ichthyolici	ʒii-ʒv	8-20
	Olei theobromæ	℥iss	48

M. Ft. suppos. No. xxiv. Sig. Insert one suppository into the rectum in the morning after stool and in the evening. If defecation occurs a second time, use another suppository. The symptom of painful defecation, sense of weight and disturbances of micturition will be favorably affected as the prostate decreases in size and induration.

—Frendenburg: *Med. Record.*

Removal of Ear Wax.

℞.	Hydrogeni dioxidi (50 per cent.)	℥iv	128

Sig. Use in syringing out the wax.

In an article in the *Phila. Med. Journal* hydrogen dioxid is recommended in one-half strength as the best solution to use in the ear, causing no irritation after drying well with absorbent cotton.

Carbuncle or Boils.

℞.	Olei olivæ	ʒxv	60
	Plumbi oxidi	ʒiiiss	14
	Olei lavendulæ	ʒi	4

M. Sig. Apply locally as an ointment. —Bulkley.

Liniment in Rheumatism.

℞.	Spts. camphoræ		
	Tinct. opii		
	Spts. ammoniæ, āā	℥ss	16
	Olei olivæ	℥i	32

M. Ft. emulsio. Sig. Apply locally four or five times daily. —*Med. News.*

Liniment for Sprains.

℞.	Ol. terebinthinæ		
	Acidi acetici, āā	℥ii	64
	Ol. lavendulæ	ʒi	4
	Vitelli ovi		
	Aquæ, q. s. ad	Oi	512

M. Sig. Apply two or three times daily. —*Exchange.*

Inflamed Rheumatic Joints.

℞.	Sodii carbonatis	ʒvi	24
	Tinct. opii	℥i	32
	Glycerini	℥ii	64
	Aquæ destil., q. s. ad	℥xii	384

M. Sig. Saturate hot cloths with the lotion and apply to the parts. —Osler: *Penn. Med. Jour.*

Erysipelas.

℞.	Ferri sulphatis	℥i	32
	Aquæ destil.	Oi	512

M. Sig. Apply by compresses and renew every two or three hours. —Valpeau.

Gonorrhea.

℞.	Plumbi acetatis	ʒss	2
	Zinci sulphatis	gr. xvi	1
	Ext. krameriæ fluidi	ʒii	8
	Tinct. opii	℥ss	16
	Aquæ destil., q. s. ad	℥vi	192

M. Sig. Use as an injection two or three times a day.

—Horwitz.

Swollen Feet.

In gouty or rheumatic subjects, non-dropsical in character.

℞.	Tablets acidi arsenosi, āā	gr. 1/40	0015

Sig. One tablet after each meal. —Hare.

Convulsions in Children.

It is recommended that a warm bath or mustard bath be given the child, and to prevent recurrence of convulsions give the following:

℞.	Potassii bromidi			
	Sodii bromidi			
	Ammon. bromidi, āā	gr. viii		50
	Syr. aurantii	℥i	32	
	Aquæ destil., q. s. ad	℥iii	96	

M.. Sig. One to three teaspoonfuls every fifteen or twenty minutes for a child 2 years of age or older.

Epistaxis (Nose Bleed).

Dissolve six ordinary strips of white gelatin in a cup of boiling water and inject 20 to 30 cm. (2/3 to 1 ounce) of the liquid warm solution into the nostril, first compressing the alæ nasi so as to prevent the escape of the liquid, which quickly forms a mass and checks the hemorrhage.

—Experiment of Freudenthal: *Med. Record.*

Parasiticide Ointment.

℞.	Acidi salicylici	gr. xlv	3	
	Sodii boratis	gr. xv	1	
	Balsam peru	gr. xxx	2	
	Ethereal essentiæ anisi	gtt. v.	1	33
	Essentiæ bergamot	gtt. xx	1	33
	Vaselini	ʒvi	24	

M. Ft. unguentum. Sig. Apply to part affected.

—*Exchange.*

Hypodermics Rendered Less Painful.

Dr. Stowall, in *Med. Rev.*, states that hypodermics are rendered less painful and more readily absorbed by dissolving the tablet in a saline solution instead of water alone.

New Method of Treating Syphilis.

Wear a bag containing mercury on the chest, a dram of the metal being poured into the bag each [illegible].

—Bulkley: [illegible] *cd*

Medicolegal.

Opinion to Be Rejected.—When the opinion of a medical expert is based on a hypothetical question, the Supreme Court of Michigan holds, in the case of Dudley vs. Gates, that it is proper to instruct the jury that if the facts, or any of them, are not true, the opinion must be rejected by the jury.

Loss of Left Arm Not a Total Disability.—A contract of insurance with a fraternal insurance company provided for the payment of a certain benefit whenever a member thereof, by reason of disease, accident, or otherwise, became totally and permanently disabled from following his usual or regular business, occupation or profession. A member, who was a pharmacist and engaged in running a drug store, was accidentally shot in the left arm, which was amputated at the shoulder-joint. No other injury was alleged to have been sustained. But the loss of the left arm alone, the Supreme Court of Kansas holds, in an action upon the contract of insurance, case of Smith vs. Supreme Lodge of Order of Select Friends, did not constitute a total disability within the terms and meaning of the contract. It is a matter of common knowledge, the court says, that much, if not all, of the work and business of a druggist can be fairly well done by one who has lost a hand. He will not be able to compound medicines so conveniently and expeditiously as a person who has both hands, but a large proportion of the medicines sold in a drug store to-day, the court understands, are compounded and ready for sale before they reach the hands of the retail dealer. It is equally well known, it thinks, that a large proportion of the business of the ordinary drug store consists in the sale of medical stores and instruments, toilet articles, holiday goods, cigars, soda and mineral waters,; etc. and hence, the court asserts, all know that this, if not all, the work of the druggist may be done, and the business conducted, with reasonable efficiency, by a person who has lost a hand.

Upholds Age of Consent Statute.—The Supreme Court of Minnesota holds, in State vs. Rollins, that the "Age of Consent" statute of Minnesota, which makes it criminal to carnally know and abuse a female child under the age of 16 years, is not void for uncertainty, but a valid penal enactment. But, it was further urged that, besides the objection thus met, there was a fatal conflict with the marriage laws of the state. Not so, however, thinks the court. It holds that this penal statute does not apply to relations between married persons within the ages authorized by law for entering upon the marriage contract. Indeed, it even thinks that the statutes harmonize together quite well; and it boldly asserts that it does not fear that the rigid enforcement of this statute will place seducible boys at the mercy of foolish girls under 16 years of age. It does not consider that the young men are so much in need of restraint as a more mature specimen of masculinity familiarly known as the "masher"—described by it as a parasite upon woman, rather than her support; very crude in his notions of her better qualities, and selfish and cruel in his conquests over inexperienced females who may be misled by his baneful attentions, to their own injury, before they are fully aware of the danger they incur, and descend into that social abyss from which return is very difficult. Moreover, it declares that it sees no violation to language, good sense or common decency to hold that sexual connection with a female under the prohibited age, however slight, constitutes abuse, and, in view of the history of the law, it says that it has no doubt that this was its intent when enacted. So it holds that proof of any act of sexual connection between the female and the party charged with the commission of the offense will sustain a conviction under the statute.

Menstruation too Improbable.—In Howard vs. People, the Supreme Court of Illinois had before it an abortion case wherein, on account of the death of the alleged, unfortunate victim, the prosecution was driven to rely on circumstantial evidence to sustain its charge. There was, for one thing, uncontradicted evidence that for two or three nights prior to the date of the reception of the girl in the house of the accused she was not in her usual health; that she had hemorrhages, which the witness, a female companion. or roommate, presumed to be the result of her menstruation period. Also, evidence that, on the morning she reached said house, as she passed up the stairway to the room assigned her, drops of blood fell from her person on the carpet and matting. Physicians were called to testify on behalf of the accused, who gave opinions to the effect that the miscarriage had taken place prior to these hemorrhages. The prosecution offered the testimony of other physicians, who testified that, although very unusual, women do menstruate during pregnancy, and it semed to be the theory of counsel that the hemorrhages mentioned were explained in this manner. But not so thinks the supreme court. It declares that the extreme improbability of menstruation in the case of a woman from four to four and one-half months in pregnancy, together with the fact that an abortion took place at about that time, refuted, to its mind, the idea of those hemorrhages resulting from natural causes. On the other hand, the court does not consider that it followed, from all the facts and circumstances in proof, that the miscarriage was produced prior to the time the girl went to that house, without any guilty knowledge or agency on the part of the accused. The girl, in all probability, it thinks, had, with or without the counsel of others, attempted to bring about the miscarriage, and the hemorrhages may have resulted from such attempts. So, when all the facts in the case and the theories of the physicians, which, it says, necessarily were only theories or matters of opinion, were carefully weighed, the court holds that it could not be said that the jury was unwarranted in its conclusion that the accused was guilty.

Death from an Overdose of Morphin.—A policy of life insurance contained this clause: "In the event of the death of the insured from suicide, whether sane or insane, within three years from the date hereof, the liability of the company shall be limited to a return of the premiums paid on this policy." Its construction was called for, or rather the question of the company's liability thereunder was raised, in the case of Brown vs. Sun Life Insurance Company, where the insured died from an overdose of morphin. This leads the Court of Chancery Appeals of Tennessee to say, to begin with, that it is a proposition of law, supported by authority as well as reason, that this and similar clauses in policies of insurance, conceding them to be valid, are not infracted by the accidental and mistaken taking of an overdose of medicine or poison or by the unintentional taking of his life by the insured. The principle or rule, in cases of this character, it goes on to state, is equally supported that suicide or intentional destruction by one's own hand is not presumed. The presumption is otherwise. The company interposing the defense of suicide, whether sane or insane, must overcome this presumption, and satisfy the jury or court trying the case, by a preponderance of evidence, that the self-destruction was intentional. Here, there was no evidence that the insured was insane. He was of foreign birth, about 58 years of age, and subject to rheumatic attacks. Less than three hours before his death he called for 12 grains of morphin. Asked by the druggist, who testified that he saw no evidence of derangement at the time, whether he desired it put up in proper doses, he replied that it was not necessary, as he knew how or in what quantity to take it. He had no relatives to benefit by dying, and leaving them to get the proceeds of the policy and his other effects. Nor had he been disappointed in love, or in any scheme of business or money-making. Sometimes, however, when suffering from rheumatism, he drank to excess. Under these circumstances, taking the facts in connection with the legal presumption stated, the court holds that it was proper to find as a fact that the insured did not designedly take an overdose of the drug for the purpose of ending his life, although it thinks that the question of whether he purposely took an overdose of the drug, or innocently, ignorantly or accidentally did so, was about evenly balanced.

***Maintenance of Pest-House Close to School.**—The Court* of Civil Appeals of Texas has approved, in the case of Thompson vs. Kimbrough, of the suppression by injunction of the maintenance of a pest-house, for smallpox suspects and those afflicted with the disease, within 192 feet of a public school, on property purchased by the county. One of the contentions was that the school district trustees had no legal right to maintain a suit for injunction against the county judge, commissioners' court and county health officer. But the court answers that, if the ground of interest alone be considered, it would certainly appear that the trustees had such interest in the premises as would give them standing as complainants against persons attempting to injure the school property and interfere with the operation of the school. Then, it was contended that the law invested the commissioners' court, in connection with the county health officer, with exclusive and final jurisdiction in the matter of establishing and maintaining pest-houses and detention camps to prevent the spread of smallpox and other infectious and contagious diseases, and that the exercise of this jurisdiction was not subject to review by any judicial tribunal. Referring to the Texas statutes on the subject of quarantine, the court says that they authorize cities and counties to establish and maintain quarantine when thought necessary for the preservation of the public health, and require their co-operation with the state authorities in the maintenance of a quarantine proclaimed by the governor of the state. It is also required that the county judge of each county shall appoint, after each general election, a "county physician," who is made the health officer of the county. He is charged with the duty of establishing, maintaining and enforcing local quarantine, when declared by proclamation of the commissioners' court. The commissioners' court is authorized whenever it is believed that they are threatened with the introduction or dissemination of a dangerous, contagious or infectious disease that may be guarded against by quarantine, to establish and maintain detention stations or camps; to provide hospitals, tents or pest-houses for the sick, etc.; and the county is required to meet the expenses. Now, it may, and perhaps should be, admitted, the court goes on to say, that the exercise of the authority of the commissioners' court to proclaim quarantine, and to have it established, maintained and enforced through the county physician, is not subject to review by judicial tribunals. But, the court says, it does not necessarily follow that all of the acts of the officers and agents of the county in relation to the subject-matter are beyond the reach of judicial authority. The authority of the commissioners' court to proclaim and cause the enforcement of quarantine does not carry with it the arbitrary power in the officers and agents of the county to unnecessarily violate the rights of others. The existence of such authority does not imply that the officers and agents of the county may establish and maintain a nuisance, either public or private, not necessary to the end to be accomplished. The establishment of a detention station and pest-house in which to place, respectively, persons who have been exposed to smallpox, and those afflicted with the disease, in such close proximity to a public school that the germs of the disease may, and probably would, be disseminated among the children attending such school, the court holds, furthermore, would be the worst character of nuisance, and would violate the rights of those interested in the school. To uphold such an act, it adds, would not strengthen the county's efforts to prevent the spread of the loathsome and dangerous disease, but it would support the very means of its dissemination, and thereby defeat the humane object which the law designs to be accomplished.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Philadelphia Medical Journal, August 25.

1 *Military Surgery. (Concluded.) W. C. Borden.
2 An Apparatus for Making Roll-Cultures. George H. F. Nuttall.
3 *The Psychoses of the Menopause. John B. Chapin.
4 *A Contribution to the Significance of Koplik's Spots in the Diagnosis of Measles. Jose L. Hirsh.
5 Two Cases of Trichinosis with Eosinophilia. Wm. Watt Kerr.
6 *Physical Diagnosis in its Relation to the Stomach and Associated Organs. B. C. Loveland.

Medical Record (N. Y.), August 25.

7 *Errors Caused by the False Interpretation of the Roentgen Rays, and their Medicolegal Aspects. Carl Beck.
8 *The Presence of Virulent Tubercle Bacilli in the Healthy Nasal Cavity of Healthy Persons. Noble W. Jones.
9 Anuria Followed by Retention of Urine in a Case of Hysteria. Alfred Gordon.
10 *What Are Necessary and Desirable Data upon Health Resorts? Edward O. Otis.
11 Tumor Albus. Frank E. Peckham.
12 *A Further Report upon the Use of Pure Carbolic Acid in the Treatment of Mastoid Wounds and Chronic Suppuration of the Middle Ear. Wendell C. Phillips.

New York Medical Journal, August 23.

13 The Annual Address of the President of the American Laryngological Association. Samuel Johnston.
14 *On a New Method of Operation for Exstrophy of the Bladder. Carl Beck.
15 A Case of Cyst of the Epiglottis. W. L. Bullard.
16 Bladder Incrustations, Multiple Phosphatic Calculi; Median Lithotomy, Irrigation, etc. J. Coplin Stinson.
17 Case of Murphy-Button Anastomosis. William C. Wood.
18 *Laryngitis a Provoking Cause of the Asthmatic Paroxysm. William C. Glasgow.
19 *Secondary Hemorrhage Following Use of Suprarenal Extract. Frederick E. Hopkins.

Boston Medical and Surgical Journal, August 25.

20 Medicine as a Science and Medicine as an Art. Philip H. Pye-Smith.
21 Repeated Ectopic Gestation in the Same Patient, with Operation in Each Case. Malcolm Storer.
22 *Mortality of Hysterectomy for Fibroids. F. H. Davenport.
23 *Hysterectomy for Myoma in America. Ernest W. Cushing.
24 *Immediate Repair of Perineal Tears. E. S. Boland.

Medical News (N. Y.), August 25.

25 *The Construction and Management of Small Cottage Sanatoria for Consumptives. Arnold C. Klebs.
26 Co-operation of the Public Schools in Teaching "Good Teeth, Good Health." Richard Grady.
27 Tuberculosis and Modern Methods for Its Prevention. H. H. Vinke.
28 *The Abortive Treatment of Acute Mastoiditis. James F. McKernon.
29 *Medullary Narcosis During Labor: A Preliminary Report. S. Marx.

Cincinnati Lancet-Clinic, August 25.

30 *Symptomatology of Pulmonary Tuberculosis. Benjamin F. Lyle.
31 The Pathology of Tuberculosis. J. E. Greiwe.

St. Louis Medical Review, August 25.

32 *Prophylactic Measures and Precautions to be Observed after Simple Fractures, with a View of Obviating Such Degenerative Lesions as may Arise in Consequence of Injuries of the Arteries or Circulatory Apparatus. Thomas H. Manley.

Pediatrics (N. Y.), August 1.

33 Acute Dilatation of the Heart in Influenza of Children. F. Forchheimer.
34 A Case of Congenital Dislocation of the Wrist. Philip Hoffman.
35 One More Case of Apyretic Membranous Croup. A. E. Cordes.

American Practitioner and News (Louisville, Ky.), July 15.

36 Doctorate Address. Roswell Park.
37 *The Office of Motherhood. Ernest G. Mark.
38 Local Paralysis due to an Overdose of Camphor. T. B. Greenley.
39 Some Obstetrical Experiences. Charles W. Aitkin.

American Gynecological and Obstetrical Journal (N. Y.), August.

40 *Utility of a Certain Chart for the Determination of Pelvic Asymmetry from a simple Method of External Pelvimetry. Philander A. Harris.
41 Demonstration of Casts Used in Obstetric and Gynecologic Teaching. J. Clarence Webster.
42 Cyst of the Abdominal Wall: Report of a Case. L. J. Hammond.
43 Spontaneous Rupture of the Uterus. Walter V. Woods.
44 *Traumatisms of the Bladder and Urethra During Labor, and their Sequelæ. Gustav Kolischer.
45 *Chronic Inversion of the Uterus: Some Remarks on its Diagnosis and Treatment. L. W. Atlee.
46 *Treatment of Gall-Stone. S. C. Gordon.

Occidental Medical Times (San Francisco) August.

47 The Plague—Thirteen Cases. W. H. Kellogg and J. J. Kinyoun.
48 The Plague in Chinatown. W. G. Hay.
49 Examination of the Blood as an Aid in Surgical Diagnosis. Wallace I. Terry.
50 The Proper Time to Begin the Treatment of Cross Eyes. Vard H. Hulen.

International Medical Magazine (N. Y.), August.

51 *Contribution to the Therapy of Encephalocele. Carl Beck.
52 *Plea for a More Rational Prognosis in Cardiac Affections. J. J. Morrissey.
53 The Treatment of Cancer of the Stomach. Boardman Reed.
54 The Detection and Estimation of Sugar in Urine. (To be continued.) A Robin.
55 The Treatment of Hay-Fever. E. B. Gleason.

56 Rectal Disorders of Children. Samuel G. Gant.
57 Extrauterine Pregnancy: Its Causes, Diagnosis and Treatment. John C. Hirst.
58 A Short Discussion of Acute Biliary Colic. Guthrie McConnell.

The Post-Graduate (N. Y.), August.

59 Sarcoma of the Testicle. James Pedersen.
60 Some Neurologic Notes. Philip Meirowitz.
61 A Case of Spontaneous Intraperitoneal Rupture of a Pelvic Abscess. A. Brothers.
62 Notes from the Clinics. Drs. Combes, Torek, and Lusk.

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63 Latent Infection and Subinfection, and on the Etiology of Hemochromatosis and Pernicious Anemia. J. George Adami.
64 *Asexualization as a Possible Prophylactic of the Increase of Crime, Idiocy, and Insanity. Daniel R. Brower.
65 *Affections of the Kidney in Relation to Pregnancy. J. Clarence Webster.
66 The Eyes and Ears of Employees of Transportation Companies. Frank Allport.
67 *Treatment of the Opium Habit by the Bromid Method. Archibald Church.
68 A Case of Congenital Goiter and Diaphragmatic Hernia. Isaac I. Abt.
69 The Condition of the Mouth and Upper Air-Passages in Febrile Diseases. Paul Chester.
70 Gude's Pepto Mangan—The Uses and Effects of Gude's Manganiferous Iron Peptone. Julius Heitzmann.

Canada Lancet (Toronto), August.

71 Acute Mastoid Suppuration with Presentation of Cases. Perry G. Goldsmith.
72 A Case of Ankylosis following Injury. J. T. Clark.
73 A Case of Incarcerated Ovary. Horace C. Wrinch.

Cleveland Medical Journal, August.

74 *Subphrenic Abscess Following Appendicitis. J. F. Baldwin.
75 *Tuberculin Reaction. G. W. Moorehouse.
76 Some Observations on Abortion. Walter R. Lincoln.
77 Gall-stones. Dudley P. Allen.
78 Symptomatologic Diagnosis of Valvular Obstipation. Thomas C. Martin.

Medical Herald (St. Joseph, Mo.), August.

79 Practical and Microscopic Notes on the Endometrium. Byron Robinson.
80 Pterygia, their Pathology and Treatment. M. F. Weymann.
81 How to be Ethical. E. A. Mendell.
82 Neurasthenia. Clinton E. Sapp.
83 A Clinical Study of the Analgesic Action of Aspirin. R. Weil.
84 The Treatment of Catarrhal Conjunctivitis. Milton P. Creel.

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86 Some Personal Observations on the Plague. H. M. Miller.
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88 Malignant Precocious Syphilis. H. M. Christian.
89 A Case of Migraine with Aphasia and Numbness in one Arm. Samuel McC. Hamill.

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90 Medical Education, Past and Present. Henry Beates, Jr.
91 Some Remarks on Typhoid Fever and the Typhoid Bacillus. C. W. Coulter.
92 Report of Eighteen Cases of Labor with Comments and Suggestions. L. B. Kline.
93 Reflex Phenomena of Inguinal Hernia. Evan O. Kane.
94 Report of a Case of Injury of the Head. G. W. Guthrie.
95 The Tongue as an Index in Disease. J. F. Davis.
96 Typhoid Fever with Perforation—Operation—Recovery. I. J. Moyer.

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97 Case of Acute Sero-Fibrinous Pericarditis. J. H. Hoelscher.
98 *When to Operate in Appendicitis and Why. J. B. Murphy.
99 *Unna's Dressing; A Treatment for Chronic Ulcers of the Leg. R. S. Michel.
100 Brain Tumor—Case Report. Francis R. Sherwood.
101 Hysterical Amblyopia. Frank A. Philipps.
102 An Anatomical Lecture. W. T. Eckley.
103 Intubation and Tracheotomy. Aime Paul Heineck.

Southern California Practitioner, August.

104 Meningitis. H. G. Brainerd.
105 Nursing a Profession. F. T. Bicknell.
106 Appendicitis, with Tabulated Report of Fifty Consecutive Operations without a Death. W. W. Beckett.
107 Organic Cardiac Disease. Geo. L. Cole.
108 A Case of Cholera Morbus. Lincoln Rogers.
109 Some Physiologic Changes in Refractive Cases. Wm. S. Fowler.

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110* Modes of Infection. E. P. Hershey.
111* Problems of Diagnosis of Initial Syphilitic Lesions. Will B. Davis.
112* Bacteriology of Syphilis. W. C. Mitchell.
113* Cutaneous Manifestations of Syphilis. J. M. Blaine.
114* Ocular Manifestations of Syphilis. Edward Jackson.
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116* Syphilis of the Throat. E. P. Gallaher.
117* Bone and Joint Syphilis. W. W. Grant.
118 Injuries to the Eye from Accidents in the Mine. Continued.) Melville Black.

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120 A Crushable Button as an Aid to Suturing in Intestinal Anastomosis. R. C. Coffey.

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124 Nosophen and Antinosine in the Treatment of Diseases of the Nose, Throat and Ear. Edwin Pynchon.
125 A Point of View in Therapeutics. Thos. D. Parke.
126 The Pathogenesis of Malaria and Some Remarks on its Manifestation. R. C. Bankston.

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128 A Case of Anthrax Successfully Treated by Local Injections of Pure Carbolic Acid. W. E. Fisher.
129 A Third Case of Aortic Aneurysm Treated by Electrolysis. H. A. Hare.
130* The Treatment of Hemoptysis in Phthisis. J. E. Frazer.
131 The Abortive Treatment of Bubo. H. M. Christian.
132* Heroin as an Analgesic—A Report of Fifty Administrations of in the Howard Hospital. Samuel H. Brown and Erie D. Thompkins.

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133 Clinical Aspect of Diarrhea Incident to the Second Summer of Infancy. J. W. P. Smithwick.
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135 Clinical Aspect of Erysipelas. J. W. P. Smithwick.

AMERICAN.

1. **Military Surgery.**—Borden analyzes the statistics as to wounds of the neck, trunk and extremities. He thinks the mortality from injuries to the head, face and neck is not reduced since the use of modern missiles, but that the wounds of the abdomen and thorax show a somewhat diminished mortality, though still serious. In the wounds of the extremities the small-caliber bullet shows itself a humane weapon and here the aseptic and antiseptic methods have produced their best results. In his general conclusions he thinks that the small-caliber rifle is not a humane weapon as far as its death-dealing effects are concerned, though it may be so considered as far as the effects of its projectile on those not immediately killed are concerned, and conservative treatment has been a most potent factor in the saving of life and limb. Operations on the field or at field hospitals should be restricted to cases of imperative necessity while the permanent and base hospitals should receive the wounded as soon as possible and have every appliance for their relief. Military surgery does not differ from ordinary surgery excepting in locality and environment and the greater number of special injuries, gunshot wounds, etc.

3. **Psychoses of the Menopause.**—Chapin finds from his study and experience that while the menopause may be a period of stress, it is not properly the cause of insanity excepting in cases with heredity or previous attacks. Women who become insane at this period are as a rule neurotic or have a psychopathic heredity or history. Many approach this period with groundless apprehensions and in this sense it may be somewhat more of a dangerous epoch, but we should discourage these fears as far as possible.

4. **Koplik's Spots.**—After a discussion of the subject and reported cases Hirsh concludes: 1. An eruption limited to the buccal and labial mucous membranes and characterized by the presence of an irregular red spot with a bluish-white center, is always present in beginning measles. 2. These spots are present from twelve hours to five days before the cutaneous outbreak. 3. The number of these spots bears no relation to the severity of the attack. 4. These spots will be found in no other condition of health or disease.

6. **Physical Diagnosis of the Stomach and Viscera.**—The methods of examination in cases of disease or abnormalities of

the stomach and associated organs are described here by Loveland, who illustrates by diagrams some of the conditions he has observed and diagnosed. He takes up the various methods of physical examination separately, and of inspection general and local, the temperature, percussion, auscultation, etc., and thinks that we can determine the shape, size, location, presence, and in many cases the character of tumefaction, if such exists, and also the sensitiveness on pressure. This information may be secured in relation to stomach, liver, spleen, or kidneys by purely physical methods, and when we have the opportunity to add to this the history and symptoms, and in selected cases the chemical analysis of the contents of the stomach, and urine, and examination of the blood, in addition to the clinical appearances, there will be very few cases in which any serious doubt as to the exact diagnosis will remain long in our minds. Yet, in the face of some very perplexing problem in diagnosis, we may console ourselves with the fact that on rare occasions, cases occur so negative in all the signs, both physical and clinical, that they will defy the diagnostic ability of the most experienced. Such consolation, however, should not be ours until we have gone so thoroughly into the case as to leave nothing undone which might add to our knowledge of that particular condition.

7. **The Roentgen Rays.**—The errors that are possible with the Roentgen rays as a means of diagnosis are discussed by Beck, who calls attention to the fact that the trouble is not in the pictures or skiagraphs produced, which it must be remembered are only silhouettes or shadows, but in the interpretation of them by the unskilled or careless. He calls attention to the importance of knowledge of minute anatomical details, illustrating it by the trigonum tarsi, a bone which is present in 7 or 8 per cent. of cases, but which is sometimes mistaken for fracture and has caused some medicolegal complications. The special trouble with the skiagraph will be in regard to joints and the more complicated the joint, the more complex the picture. Other things which may produce difficulties in diagnosis are callus formations, the recognition of the union of the joint in the growth, diaphyses and epiphyses and the location of foreign bodies.

8. **Tubercle Bacilli in the Nose.**—Jones has examined a number of cases of tuberculous and other patients, and finds that virulent tubercle bacilli are to be found in the nasal cavities of healthy persons, but not so frequently as in those who have the care of the tuberculous. His studies show the danger from inhalation of dust, especially in localities where the tubercle bacilli are liable to be given out.

10. **Health Resorts.**—The points of special importance to be known in regard to health resorts are described by Otis, who takes up the plan suggested by Dr. Phillips, of the United States Weather Bureau, as a simple and plain but satisfactory method of giving the facts in regard to the climate of any region. It includes the questions of temperature, humidity, precipitation, direction and force of winds and the averages as to clear and rainy weather. Among other things he mentions the characteristics of the locality, whether wooded, hilly or undulating country, the character of the soil and the condition of artificial essentials, such as lodgings, water-supply, protection from contagious diseases, amusements, diversions, etc.

12. **Carbolic Acid.**—Phillips reports further results in the use of pure carbolic acid in the treatment of mastoiditis and chronic suppuration of the middle ear, in all of which he used it with beneficial effects. In none was there any inconvenient or unfavorable symptoms after following it with alcohol as mentioned in his former article. He also quotes notes from Parker, house surgeon to the Manhattan Eye and Ear Hospital, giving similarly favorable experiences.

14. **Exstrophy of the Bladder.**—Beck describes an autoplastic method for the restoration of the retentive powers of the bladder in congenital exstrophy by an anterior muscular wall. In cases where the flap operation is impracticable he takes the recti muscles, incises them along their internal margin to the extent of a little less than one-half their thickness and forms flaps of the same. After uniting the walls with thin iodoform-silk sutures the reflected muscular flaps are united above them, thus producing a small but virtually normal bladder, protected by a firm muscular layer, which is likely to distend later on. Further observations of the case are promised in the future.

18. **Laryngitis and Asthma.**—Glasgow reasons that asthma is due to a reflex irritation in the upper portion of the respiratory tract, and according to his observations the interarytenoidal region seems to be the most frequent site of the irritation. This is due in many cases to primary laryngitis and the causation of asthma is therefore laryngeal rather than nasal in these cases. Four cases are reported illustrating his views. He thinks that we need to use constitutional as well as local measures in this condition since the latter alone are generally not sufficient to incite respiratory spasms.

19. **Suprarenal Extract.**—The striking results from the use of suprarenal extract and its great value in nasal affections are apparently not entirely without corresponding inconveniences. Hopkins shows where secondary hemorrhage has been produced in his own practice and in those of many others when they have not applied intranasal packing. The powerful stimulation to contraction does not suffice to prevent indefinitely but only to delay the paralytic stage that follows. He does not offer these facts as an argument against the use of suprarenal extract but only to call attention to some points of danger that can be avoided by the easy recourse to packing after its use.

22. **Hysterectomy for Fibroids.**—Davenport reports two cases of operation for fibroids with later death of patients. The prominent feature of the two cases was the size of the tumor, but there are other dangers which he mentions as not less serious. In looking over his cases for hysterectomy for fibroids, he finds in his last 100 abdominal operations 19, of which these two only were fatal. He had in his 19 cases, 2 cases of malignant degeneration, 3 of anemic necrosis, one of the latter being malignant as well, thus making 6 altogether of the 19 where life was threatened. With these possibilities in such proportion he thinks that any cases where symptoms occur which interfere with the patient's enjoyment of life, operation should be advised, though not universally in fibroid, many of these causing so little inconvenience and growing so slowly that this is not indicated. Many cases also offer other objections, such as interference with child-birth, etc., and where the patient desires it, he thinks we should not hesitate.

23. **Hysterectomy for Myoma in America.**—Cushing reviews the contributions to gynecologic surgery made in this country with special reference to operations on the uterus and sums up the changes in the methods as follows: Entire abandonment of extra-abdominal treatment of the stump, wide trial and substantial rejection of vaginal hysterectomy as an operation of election in cases of myoma and salpingitis, the establishment of indications for the retention of cervix uteri as compared with total extirpation, the adoption of a universal method by most operators, the disuse of drainage wherever possible and the common recourse to operation in small hospitals by the local surgeons, which has its disadvantages since the skill and experience of some of these are not equal to their zeal. He gives the indications for total hysterectomy as compared with leaving a portion or the whole of the cervix which is generally the better course. 1. It makes the operation shorter and easier, there is less chance of hemorrhage during operation and so much cellular tissue is not opened for the oozing and decomposition of the blood. 2. There is somewhat less chance of infection of the wound where only the small cervical canal is cut across and instantly closed by the double tenacula than when the whole vault of the vagina is opened. 3. The vaginal portion is a seat of sexual feeling, and if it is present the patient does not feel as much mutilated as when it is gone. 4. The lower parts of the broad ligaments with the cervix, forms a better support to the pelvic contents than does the simple union of the vault of the vagina. Total hysterectomy should be performed; 1, when the cervix is enlarged and diseased; 2, when it is suppurating or septic; 3, when there is no suspicion of malignant disease, and 4, when vaginal drainage appears desirable.

24. **Perineal Tears.**—After first noticing the causes of these and the impossibility of always avoiding them, Boland sug-

gests immediate operation and gives his method. He thinks the use of the head mirror a valuable adjunct in the operation.

25. **Cottage Sanatoria.**—Klebs calls attention to the value of the open-air and cottage treatment of tuberculosis and gives what he considers a model plan of an institution of the kind.

28. **Mastoiditis.**—It is often said that the only rational means of aborting acute inflammation or mastoiditis is by the use of dry or moist heat. McKernon condemns this view, showing by cases in his practice that it is not effective. On the other hand he prefers the use of cold by the ice coil applied snugly over the process, with free purgatives administered; the canal irrigated frequently with warm bichlorid solution and the patient kept on a fluid diet. The use of moist heat may seem to diminish or stop the pain, but it does so at the expense of softening and undermining the tissues beneath it and thus advancing the disease.

29. **Spinal Analgesia and Labor.**—Stimulated by the reports of the surgical use of spinal analgesia by Tuffier, Marx has used the same method in labor with remarkably good effects in the cases in which it was employed. The patients were delivered without any pain or any knowledge of it, for they lose consciousness of pain when the injections are made thoroughly and successfully. He does not prophesy as regards the future utility of this means, but apprehends no danger from its employment. Whether any remote dangers will follow the use of cocain when applied, further experience will have to show. He suggests the use of this method in cases of prolonged and tedious labor, as anesthesia in this form does not at all interfere with the natural course.

30. **Symptomatology of Consumption.**—The first early symptoms of pulmonary tuberculosis are rarely significant to the patient with lung trouble, according to Lyle. If the temperature was taken oftener we should recognize many more cases. The different forms of consumption, acute, caseus, fibroid, etc., and their symptoms are noticed in detail.

32. **Fractures.**—The average results of treatment, Manley says, are excellent, but while authors are clear as to how we should treat fractured bones, they say but little of the limb. The limb should first be wholly wrapped in cotton wadding and should be supported laterally. He does not believe in the use of the bandage over the surface of the limb immediately after the fracture and the less splinting we apply over the limb which is the seat of diminished vitality the better. The first principle is to put the limb in a comfortable position and we should discard every sort of fixation until we feel sure of survival of the limb. In every form of fracture involving the shafts of the long bones or joints of the extremities our first and most important concern is the preservation of the circulation. In open fractures, after rendering the parts aseptic, moderate tamponade with gauze, with moderate pressure will generally suffice, and if the larger arteries are lacerated a tourniquet properly adjusted is to be relied on. The Esmarch bandage should not be indiscriminately employed over more than two hours. In so-called simple fracture the arterial trunks may be seriously injured, threatening the vitality of the parts, and we should place the limb in such a position as to best favor the establishment of circulation. The preservation of vitality of the part without regard to the condition of the joint is most important. Splints and bandages must be applied in the case of arterial thrombosis until we are sure that the circulation is turning toward normal. In the case of dry gangrene there is no haste to amputate until the nature of the processes are thoroughly defined. As there are good reasons to believe that the union of fractured bones is sometimes delayed, or even wholly arrested, by premature or too rigid adjustment in fixative apparatuses, or in consequence of too long employment, caution should be observed not to unduly constrict the circulation by any sort of mechancial appliance; rather, on the contrary, it is probable that in not an inconsiderable number of fracture cases the circulation of the limb is favored, the nutrition improved, reparative osteogenesis hastened and perfected by occasional moderate motion, massage, and only such adjustment as will provide support alone to the limb, without simultaneously exerting too much pressure.

37. **The Office of Motherhood.**—Mark thinks that no child should be born undesignedly, as is too often the case at the present time, and that great damage is done by too much child-bearing by women. He lays stress on the importance of maternal impressions and especial care during pregnancy to see that all the conditions and environments are the most favorable possible.

40. See abstract in The Journal, xxxiv, p. 1339.

44. **Vesical and Urethral Traumatism During Labor.**—This paper does not consider the major injuries of the bladder and urethra, but only those cases in which no external wound is produced. The urethra is injured during labor by direct bruising. The direct consequence is hemorrhage of the mucous membrane, producing retention and tenesmus, requiring the use of the catheter. The catheter should be straight, with a very slight curve at its vesical end. The eye should be situated in the center and the tip be carefully polished. The ordinary female catheter is liable to do harm. If the suffusion in the urethral wall is not reabsorbed, but becomes organized, the subsequent shrinkage of the connective tissue may produce quite extensive strictures, which can be removed only by urethrotomy. All urethral lesions caused by squeezing are most likely to occur in cases of simple flat pelvis. The urethra may become kinked and double up. Another variety occurs if only the urethral wall is carried downward; this is most likely to occur in the forcible forceps operation, which drags down the urethra, paralyzes the sphincter and produces incontinence even after involution is complete. Traumatisms of the bladder may be divided into two groups: traumatic desquamative catarrh and dislocations. By studying a great many cases, Kolischer has been able to prove that there is always a pronounced edema in the bladder during labor, favoring desquamation through mechanical injuries. Hemorrhages may occur from frequent pressure and the epithelium is then thrown off. Such losses of the epithelium cause the patient the sensation of heaviness and soreness and tenesmus; diagnosis of cystitis is often made and treatment with caustics or astringents is employed to the patient's injury. Traumatic dislocations are caused by the descending fetal skull, which drags the bladder from its seat. It may be completely dislocated and in this case complete incontinence results. This may have a further effect, producing trouble in the ureters and dilatation. The only method of treating this complication is operative. The bladder must be dissected out, replaced in its normal region and secured there by sutures. These injuries usually follow forceps, and especially high forceps, operations, and furnish another reason for preferring the Breus axis traction forceps, which allows of more mobility of the head.

45. **Chronic Inversion of the Uterus.**—In Atlee's paper chronic uterine inversion is described and he shows that there are times more favorable than others for its replacement; that for each individual case some one particular method is most liable to be successful. He also shows the great difficulty that may be encountered in certain conditions in establishing a satisfactory diagnosis and reviews the procedures which have overcome this difficulty in the hands of the most experienced men.

46. **Gall-Stones.**—From the case reported, Gordon concludes that an operation is indicated after it is well established by repeated attacks that gall-stones are present. Gall-stones may be present in the gall-bladder without giving rise to colic, but are the cause of more or less digestive disorders and impairment of general health. From his experience and the reports of others he is satisfied that many cases are better treated at the time of operation by closing the bladder, dropping it back into the cavity and closing the abdominal wound. Patients treated by drainage are often slow to recover and liable to be left with biliary fistula lasting for a long time. Great care should be used to cleanse the bladder before closing it, rendering it as nearly aseptic as possible. While gall-stones may occur after operation, he thinks they are no more liable to after closure than after drainage.

51. **Encephalocele.**—This condition occurring in the skull, which is analogous to spina bifida, is, as a rule, readily diag-

nosed and its prognosis is unfavorable if let alone. There are, however, some difficulties in its differentiation which are pointed out by Beck. Three cases are reported, in two of which operation was performed, with success in one, the other died of purulent meningitis. In the third case the tumor was gradually diminished and finally destroyed under pressure with large iodin-gauze collodion dressings. He thinks that the prognosis is improved with aseptic methods and that the Roentgen rays have added a further element of security in the diagnosis which also improves the therapy of the condition.

52. **Cardiac Disease.**—Morrissey is opposed to gloomy prognoses in the case of heart murmur and advises the practitioner to consider the condition of the cardiac walls, the probable length of time the lesion has existed, the presence of dilatation or hypertrophy, and also the occupation and temperament of the patient. Murmurs do not invariably mean endocarditis and when a man has one of which he is unconscious, where the heart is acting perfectly, and his work is not of a laborious character, and he is past the period where rheumatic infection is liable to be stimulated into renewed activity, he is not to be regarded as a bad risk for insurance, or to be refused a policy commensurate with the degree of cardiac inefficiency. Increased presystolic murmur does not always indicate a mitral stenosis, nor has so-called musical apex murmur any significance. From the standpoint of longevity, aortic stenosis is a favorable lesion and the writer does not agree with some authors who say that it occurs mostly after middle life. He says, never hesitate to ask a patient to return for further observation. There are more snap diagnoses made in the study of cardiac disease than of any other disease of the body.

64. **Asexualization.**—Brower reviews the statistics of the increase of crime, insanity, idiocy and their ratio with that of the general population. He points out how much of this is due to the continuation of bad heredity. The remedy he suggests is asexualization of criminals and defectives, which he thinks is worthy of consideration.

65. Published in THE JOURNAL, vol. xxxiv, p. 959.

67. See abstract in THE JOURNAL, vol. xxxiv, p. 1335.

74. **Subphrenic Abscess Following Appendicitis.**—Baldwin reviews two cases of subphrenic abscess, accurately diagnosed and treated by operation with success. They are, he thinks, the forty-fourth and forty-fifth cases of this complication that have been reported. In the first case the appendix was behind the cecum and he was inclined to believe that the infection extended downward and behind the peritoneum; the entire abscess was therefore retroperitoneal. When the appendix is free in the peritoneal cavity one would expect to find the intraperitoneal form of infection, it being carried by peritoneal currents from the region of the appendix to the diaphragm. His second case was of this variety. The diagnosis in this case must be based on the continuance of the infected symptoms after removal of the appendix or subsidence of local inflammatory symptoms. A careful examination should reveal some tenderness in the region of the liver with depression on its lower border, and pain in the right shoulder has been noticed in a number of cases, and is an important factor. Hiccough is rather a common symptom and an important fact is that frequently in these cases the abscess cavity contains gas as well as pus and this may render the diagnosis somewhat more simple. In these cases the previous history of the patient pointing to abdominal, rather than to thoracic, trouble, normal vascular murmur and fremitus at the apex with a sharp line of differentiation from the amphoric respiration found below and the descent of the line of normal fremitus with very slight displacement of the cardiac apex and slight bulging of the intercostal spaces without chest-wall immobility are the points noticed by Leyden as important. If the disease is not recognized and not surgically treated the mortality is large, but when it is recognized the mortality should not exceed 50 per cent. or less. He prefers to make an incision well back on the right side so as to strike the abscess directly, if extraperitoneal, or through adhesions if time has permitted their formation. If no adhesions are found, this will best allow drainage and protection of the general cavity. While most of these abscesses can be reached, as in his two cases, by going below the ribs entirely, it might be necessary in some cases to resect the tenth, ninth or eighth rib to reach the abscess more directly. The danger of wounding the pleura must not be overlooked, therefore he prefers the infracostal incision.

75. **Tuberculin Reaction.**—Moorehouse reports cases with temperature curves and a number of tuberculin injections in patients in whom the diagnosis was difficult. He thinks the measure is justifiable in such cases. Of the 13 positive reactions, 2 had a temperature of 104 F. or above; 8, 103 or 104 F.; 1, 102 or 103 F.; 2, 101 or 102 F. The time of high temperature varied from eight to forty-eight hours after the injection. Tuberculin was given to a number of patients in which there was no reaction, but they are not reported.

85. **Pneumonomycosis.**—Pearson and Ravenel report a case of pneumonomycosis which was attributed to the aspergillus fumigatus. This mold forms no toxins, but causes trouble mechanically by traumatism and causing necrosis of the cells. In this case, which occurred in a cow, they consider it one of primary aspergillosis because of the predominance of this fungus in the nodules and the lack of other lesions which could cause death. They consider the case of interest as the only one of this character ever observed in America.

98. This article has appeared elsewhere. See THE JOURNAL, vol. xxxiv, p. 1651.

99. **Unna's Dressing.**—Unna's paint or dressing is highly recommended by Michel for chronic ulceration of the leg. It is prepared thus: Take of water and glycerin, each 10 parts, and of gelatin and white oxid of zinc, finely powdered, each 4 parts. The gelatin should be of the best quality. Dissolve the gelatin in water by means of the water-bath. While hot add the glycerin and finally the oxid of zinc, stirring vigorously and continuously until cold. Before application the leg should be washed thoroughly with soap and water, dried and rubbed with alcohol. When the paint is rendered fluid by heat it is applied to the leg with a paint-brush, extending the dressing from a little below the knee down nearly to the ankle. After the leg has been thoroughly painted, an ordinary bandage is applied, which must be put on without wrinkles or reverses, and necessarily, therefore, in parts. Above this another layer of paint is applied and so on. The dressing should be from three to five bandages in thickness. It should be worn from four to eight weeks, though it may need more frequent change. This plan of treatment is applicable to all ulcers of the leg and can be made to answer other indications than those here mentioned.

110.—See abstract in THE JOURNAL of August 25, p. 514.

111.—Ibid.

112.—Ibid.

113.—Ibid.

114.—Ibid.

115.—Ibid., September 1, p. 577.

116.—Ibid.

117.—Ibid.

121. **Non-Roaring Stethoscope.**—Scott describes his experiments to eliminate the roaring sound heard in the stethoscope. He has constructed a non-roaring monaural stethoscope which consists of a bell with a spring, the bell composed of glass and metal which does not allow the sounds of muscular contraction to be conveyed from the fingers and which can be applied easily to the chest wall or other parts of the body. He has found it especially advantageous in examining children or small areas.

122.—This article appeared in THE JOURNAL of July 21, p. 131.

127.—See abstract in THE JOURNAL, xxxiv, p. 1197.

130. **Hemoptysis.**—The author divides the varieties of blood-spitting into two large clinical classes: pure or large hemorrhages, and, impure or minor hemorrhages. The conditions to be fulfilled in every form of treatment are to lessen blood-pressure and to increase resistance at the bleeding-point. For while the venous pressure is lower than the arterial, it is a good deal higher than it would be had the total caliber of the venous been greater than that of the arterial vessels,

which is not the case, as shown by Winslow, Ewart, Santorini and Haller. Ergot also acts only beneficially by lowering the venous pressure and that it does act beneficially sometimes and sometimes not in hemoptysis is a known fact. The arterioles and veins also act similarly as regards the effect on blood-pressure by ergot. When the patient is first taken ill the pulse is full and rapid, but this depends somewhat on the temperament of the patient; if not nervous, it may be slow and steady with no rising temperature, and these cases often do well without any special treatment. He asks how we are to lower a lateral pressure on the blood-vessels. There are only two ways of doing this in the pulmonary vessels: By acting on the heart-beat or on the vascular approaches to the wounded vessel. An injection of morphin with ergot is often sufficient to stop the bleeding. The next thing is to prevent recurrence and Frazer considers that further injections may be required. Rest in bed is necessary and the length of time is important, too little is often given. The diet should be light and cool and he is careful to prohibit any purgatives while the heart's action is excited. Discomfort is not usually felt in this regard for three or four days, and then oil or glycerin enemata are sufficient. The cough may be troublesome, but if not controlled by injections, it may yield to chloral or codein. Pain in the chest is usually met by counter-irritation. Vomiting may occur, but seldom requires treatment; if persistent it generally yields to one-twelfth grain of cocain. If the hemorrhage is purely arterial, ergot is contraindicated. The other drugs and agents mentioned are aconite, which he has found very useful, and digitalis in mild cases. The ice-bag has a slight effect, hardly worth the trouble it gives. Turpentin, sulphuric, tannic and gallic acid, etc., are useless.

132. **Heroin.**—According to Brown and Tompkins' experiments, in which they gave this drug in thirty-four cases for relief of pain, and as a hypnotic in sixteen, it would appear that heroin is a safe, reliable analgesic, which can be repeated if necessary without producing habit or doing any harm.

FOREIGN.

The Lancet, August 18.

Physiologic and Therapeutic Action of Digitalis. T. Lauder Brunton.—The action of digitalis has long been known and is explained by Brunton as partly due to its effects on the inhibiting center of the circulation and in part also to its contraction of the arterioles, raising the blood-pressure in the general circulation. The diuresis which digitalis produces is probably due to increased pressure within the glomeruli of the kidneys. The chemical composition of the drug is complex; the chief components, according to Schmiedeberg, are digitoxin, digitalin, digitalein, digitonin, and digitin. The last two have so little physiologic action that they may be dismssed from consideration. The crystallized digitalin of Nativelle consists chiefly of digitoxin; the digitalin of Homolle and Quevenne consists chiefly of digitalin and the German digitalin consists chiefly of digitalein and digitonin. The action of these drugs appears to be nearly alike in kind, but differs in degree, digitoxin being far the strongest. Nativelle's digitalin is found by Widal to be eight or ten times stronger than amorphous digitalin, and in daily doses of from one to two milligrams slows the pulse, while from three to ten milligrams of Homolle's digitalin are required. The German digitalin may be given in doses three times as great as Homolle's, or ten times as great as that of Nativelle. The insoluble kinds of digitalin—Nativelle's and Homolle's—cause considerable local irritation when used subcutaneously and may even cause abscesses, though the solutions are perfectly sterile. Soluble digitalin may be used subcutaneously in the form of a 1 per cent. solution in equal parts of glycerin and water, 1 to 2 c.c. being injected two or three times a day. Digitalin and its active principles regulate the heart's action, assist failing circulation and act as diuretics. In cases of palpitation and functional irregularities small doses, such as 10 minims of the tincture, are sometimes very useful. This is well marked in cases of palpitation brought on by physical strain, anxiety or worry. Where stomach irritation has produced it in a reflex way, better results are obtained by bismuth and rhubarb. In cases of aortic regurgitation with good compensation digitalin is quite unnecessary and may be harmful. It is, however, of utmost service when the mitral valves become incompetent in consequence of damage to the valves themselves or dilatation of the cardiac orifices from weakness after infectious diseases or from failure of a hypertrophy consequent upon aortic regurgitation or renal disease. It may be useful, moreover, before the heart has dilated so as to render the mitral valves incompetent, by lessening the ventricular regurgitation during diastole, and thus diminishing the amount of blood which can regurgitate. By its action on the arterioles it also aids in lessening the flow. To get the best results in severe cases, the use of the drug should be associated with rest in bed and massage. In conclusion, he speaks in regard to the dangers of the drug in cases of fatty heart and very high tension. If we have fatty degeneration with normal muscular fibers of the arterioles, the resistance to cardiac contraction will be increased and the heart, already disabled, will be further embarrassed. In such cases we should simultaneously administer nitrites, such as nitroglycerin, nitro-erythrol or ethylnitrite, most commonly given in the form of spirit of nitrous ether. The same precaution should be adopted where the arterial tension is high and the heart is just beginning to fail, and in such cases it may be well to avoid digitalis altogether; but if it is given, the nitrites should accompany it and great attention should be given to the condition of the bowels and the liver.

Some Remarks on Cancer of the Breast. Skene Keith.—The three questions usually asked by the public in reference to cancer are: 1, is it curable? 2, is it hereditary? 3, is it curable by operation? Keith believes that cancer is increasing to a certain extent, but this is apparently magnified by the better knowledge of pathology and diagnosis. When we come to heredity the statistics are embarrassed by the fact that the public do not like to admit this element. It is most certainly curable, but not in every case, even in those apparently favorable to operation. The first thing to be decided is what is a cure. Here the unsatisfactory question of time comes in. If a patient died twenty years after the cancer of the breast had been removed, it could not be said positively that it would not have recurred had she lived long enough. Some have fixed the time at three years, after which a cure can be claimed, but Keith thinks this is too short and even five years would be the same. Every year, however, increases the chances of life. The time limit may be suitable for statistics, but it is not assurance to the patient. He remarks in regard to the statistics of operations that it is possible some of the operations of the past have not been done with sufficient care. He thinks the Halsted operation, from its severity, must have a certain amount of mortality in weak subjects, while the removal of the breast and axillary glands is an operation unaccompanied by any extraordinary risk to life. What is more important than the removal of one or both pectoral muscles is the removal of the superficial fat of the breasts. It has been shown of late that the lymphatics do pass freely into the superficial fat and it may be that if extra attention is paid to this part during the course of the extensive operations practiced by some, the improved results are due to this rather than to the free removal of muscle.

Australasian Medical Gazette, July 20.

The Effects of Migration from the Northern to the Southern Hemisphere. R. Humphrey Marten.—In this address the author gives his own observations and impressions regarding the difference between the native Australian and the native Englishman. In the Australians maturity comes earlier, they are energetic, muscular, and more inclined to be dark-complexioned than are the British islanders. With the early maturity he thinks there is probably an early senility. The Australian's teeth are extremely bad as a rule, and this is due, he thinks, to the large amount of butcher's meat consumed by them, but he comforts the Australian with the statement that, according to the latest French statistics, good teeth go with a high death-rate. In stature the Southerners are rather above the British standard. Their families are as large as in the northern hemisphere, and the majority of births occur in the corresponding seasons—not the same calendar months. In regard to their diet, the Australians are the greatest meat-eaters in the world, and head the list in the amount of tea consumed per individual, except perhaps the Chinese. As a whole they are not a beer-drinking people, but prefer whisky, which he credits to the ease of transport. Beauty fades earlier and as they live at a higher pressure, the length of life will probably be affected. As regards diseases in Australia and Great Britain, if any practitioner were asked if there were any national disease peculiar to Australia he would at once answer hydatids, while rickets is almost unknown. Diphtheria, typhoid, etc., are as common as in Europe. Typhus fever, cholera and relapsing fevers have apparently never been imported. Pulmonary tuberculosis appears to be about one-half as frequent as in Europe. Scarlet fever is milder. Smallpox has never gained much footing, but he thinks it would be disastrous if it occurred, owing to the unvaccinated condition of many of the inhabitants. The Australian colonies have so far escaped hydrophobia. Rheumatic fever, according to his experience, is very rare, while rheumatoid arthritis is fairly common and there is a peculiar form of joint-trouble allied to chronic rheumatism which resembles arthritis, but is not permanent. Diabetes is about as common as in Europe; gout is rare. The cirrhotic variety of Bright's disease is about as frequent as in Europe. The Australians also have their share of summer complaints and a large amount of appendicitis. Bronchitis is not a common disease, but pleurisy and pneumonia are perhaps as common as in the colder North. In his opinion, heart disease is less frequent than in Europe, but this is probably to be explained by the fewer cases of acute rheumatism. There is nothing special in regard to nervous diseases, excepting the invasion of the brain by hydatids. Syphilis appears to run about the same course as elsewhere. It has struck him that cases of ectopic pregnancy occur more frequently than in England and to go without seeing one in his practice for six months is a rarity. Gynecologic complaints are, he thinks, dependent largely on the customs of the country and they are more inclined to favor the American and continental schools than the British. Eye, ear and nose diseases furnish magnificent fields for the specialist.

Archives Generales de Med. (Paris), July.

Hemorrhages in the Suprarenal Capsules. F. ARNAUD.—The hemorrhage did not produce any appreciable symptoms in more than half of the eighty cases analyzed in this review. In 6.3 per cent. the capsular hemorrhage became manifest as a large hematoma or abdominal tumor, and even in these cases the exact diagnosis was made only once during life. The syndrome of the peritoneal type existed in 7.59 per cent. There was laceration of the capsule in all, and a hemorrhagic exudation into the peritoneum in four, with perforation in one. Symptoms of capsular insufficiency were evident in 10 and of suprarenal apoplexy in 19 per cent. The latter was characterized by sudden death in a few hours to three days, sometimes accompanied by nervous symptoms, such as delirium, convulsions, coma, hypothermia, etc.

Hemorrhage in the Cerebellum or Peduncles. R. TOUCHE.—Thirteen cases are described in full, and in nearly all the autopsy findings are given. In one, a healthy woman of 66, the classic cerebellar syndrome appeared, vertigo, etc., falling always from the left side. No lesion was found in the cerebellum, merely a hemorrhagic focus with destruction of tissue, in the left middle peduncle of the cerebellum. Another case confirmed the possibility of sudden blindness from hemorrhage in the aqueduct of Sylvius. In another patient the head and eyes deviated to the right; she was eight days unconscious and had a tendency to roll out of the right side of the bed. The autopsy disclosed softening of the inferior surface of the left lobe of the cerebellum.

Malarial Infection from Plants. VINCENTE.—A boy of 9, at boarding school, and his brother, two years younger, at home in Paris, succumbed simultaneously to severe malarial infection, both isolated cases. Vincente, after much research, traced the infection to three large oleander trees which had been brought into the living-rooms of the residence at vacation time. The mother had contracted severe malarial infection several years before the birth of the children, and he attributes the present outbreak to the survival of the malarial germs on or in the plant tubs. The soil, warmth and constant moisture in these very large tubs combined to form a favorable culture-medium for germs. The plants in this instance were covered with innumerable plant-lice, which swarmed all over the room, on the furniture, clothes and skin of the inmates, and were even found in the drinking water. He is inclined to incriminate these insects and is now making a special study of them to determine the question.

Archives Orientales de Med. et de Chir. (Paris), July.

Cure of Malignant Ulcerations With Cynoglossum. TSACONAS.—About twenty months ago Tsaconas found in a monastery on Mount Athos a MS., dating from 1600, while referred to numerous cures of benign and malignant ulcerations obtained with the pulverized root of the cynoglossum applied externally. He at once sought opportunities to test this remedy, and now announces that with it he has cured five cases of epithelioma of the face in patients from 50 to 84 years of age. The photographs "before and after" show the complete disappearance of the neoplasms, with merely a small defect in some and complete restitution in others. The ulcerating surface is first cleansed with a solution of boric acid and then dusted thick with the powder twice in twenty-four hours, and covered with a cotton bandage. The cure was complete in five months in most cases, the extremes being four and eight months. Tsaconas uses the dried roots, blossoms and leaves of the cynoglossum. He also reports a number of simple ulcerations and even of moist gangrene after traumatism cured with the powder. Poulopoulos has successfully used it internally in doses of 1 to 2 gm. a day in seven cases of ulcus rondus and in several cases of cancer of the stomach, with material improvement.

Bulletin de l'Academie de Medecine (Paris), August 7.

Connection Between Genital Functions and Arsenic in Thyroid Gland. A. GAUTIER.—It has been demonstrated that iodin and arsenic are normally constant constituents of the thyroid gland, in which they are stored in the form of specific proteids. They have also been found in the organs of ectodermic origin, the brain, skin and its appendages, hair, nails, etc. Normal blood contains infinitesimal amounts, but the menstrual blood, except in the case of anemic subjects, contains such large amounts that almost the entire supply must be thus voided each month. This confirms the theories in regard to the close connection between the thyroid and the genital functions. In the female the surplus of the phosphorized nucleins of the thyroid gland and possibly of other glands, is periodically diverted to the genital organs, where it serves to nourish the fetus or is expelled in the menstrual discharge. In the male this elimination occurs through the skin and its appendages, in the shedding of the hair, beard, fur, horns, "nuptial plumes," etc. Women taking organic arsenic in the form of cacodylate find that the hair grows and the menses become regular, while on the other hand, nuns who keep their hair cropped close, note that the menses become irregular if the hair is cut during the molimen. The success of Brown Séquard's extract of the testes is due to the easily assimilated phosphorized principles which it contains, supplemented by the addition of the iodin and arsenic in the thyroid gland. If this gland has deteriorated, as in consumptive, myxedematous, goiterous and thyroidectomized persons, vitality languishes, the genital functions are affected, and the skin and brain degenerate. It seems to be evident that the organic phosphorus of the nucleins is indispensable to the functional activity of the cell-nuclei, but that it is the arsenic and iodin which impart to these nucleins and to other specific principles a superior activity which enables them to react on the entire organism, more especially on the skin, brain and organs of reproduction.

Regeneration of Bone-Marrow in the Dog. V. CORNIL.—Both marrow and bone grew again in the normal place after the tibia had been partially scraped out, thus reconstituting the bone, in three months after a preliminary phase of ossification in the marrow cavity. Bone-marrow isolated by removing the bone around it after amputation, first becomes ossified and then transformed into fibrous tissue. Transplanted marrow undergoes fibrous transformation without a previous stage of ossification. This research confirms the temporary character of accidental ossification.

Sarcomatosis Cured With Sodium Cacodylate. Petrini.—A patient, 40 years of age, was treated with sodium cacodylate as a last resort for diffuse sarcomatosis commencing on the pharynx. Seventy injections were made in all, 13 cg. being the daily maximum dose. One of the tumors was excised, which proved to be an embryonal, vasoformative-celled sarcoma, non-pigmented and non-melanic. All the lesions retrogressed to complete disappearance with a supplementary course of arsenical mineral water. In a second case, improvement was evident with similar treatment, but the general process was too far advanced to prevent the fatal termination.

Pathogenic Blastomycetes in Carcinoma. Leopold.—Several hundred cases of carcinoma have been studied by Leopold with a special microscope, which keeps the section warm and moist. He found blastomycetes frequent, and was able to trace their development and obtain a pure culture in four cases. He also secured positive results in animals inoculated with them, particularly marked in one instance in which a rat was inoculated with a pure culture from a cancer on a female patient, and reiterates his assertion that the blastomycetes are factors in the etiology of carcinoma.

Presse Medicale (Paris), August 8.

Experimental Research on Thyroid Infection. H. Roger and M. Garnier.—The Koch and Eberth bacilli and staphylococci were the micro-organisms studied. The experiments showed that intense infection—even if brief—induces cellular alterations, while protracted infection determines interstitial lesions. The entire gamut of visceral inflammations can be reproduced by injection of microbes into the thyroid arteries. Varying the dose or the virulence of the cultures it is possible to induce interstitial thyroiditis: hemorrhagic, with a lively leucocyte reaction and sclerosis, or parenchymatous, with acute necrosis and degeneration of the cells, and epithelial proliferation leading to neoplasia.

Diagnosis of Coronary Angina Pectoris. P. Merklen.—Angina pectoris of coronary origin is distinguished by retrosternal pains radiating into the cervicobrachial nerves, and distress. They appear as sudden attacks isolated, usually consecutive to unusual effort, sometimes to exposure to cold or violent emotion. There is no pain nor hyperesthesia during the intervals and its non-spontaneous character is an important aid in differentiation. It is a neuralgia and not a cardiac neuritis. The attack ceases under the influence of repose, the patient usually holding his breath to ensure absolute immobility.

Revue de Chirurgie (Paris), August 10.

Sebaceous Adenoma of the Face. G. Curtis.—The writer classes sebaceous adenomata as simple and complicated, both benign. In the first the stroma is not altered, but in the second there is varying degeneration of the stroma and of the vessel-sheaths. In a case of the latter variety described and illustrated the tumor was of the size of two fists, with a broad base of fibrous tissue on which it was freely movable. The ulcerating, bleeding, fetid surface and the emaciation of the patient, a man over 56, suggested malignancy, but the adenoma had no deep prolongations and removal was simple.

Extraction of Nail from Bronchus With Magnet. Garel.—A child with an iron nail 53 mm. long in the right bronchus was relieved by tracheotomy. A magnet was inserted in the opening, which attracted and removed the nail.

Osteoplastic Amputations. Z. Samfirescu.—When a long bone has to be amputated in the shaft it is possible to make a diaphysial bone-stump which fulfills all the conditions of the trunk and can be placed immediately in the prothesis without the slightest remote inconvenience. The bone-stump thus obtained is solid and not sensitive to changes in temperature. The shaft is sawed across in three places, about as far apart as the bone is wide, the highest amputation on a level with the highest point of the incision in the soft parts. The small cylinder of bone beneath it is then removed, and the cylinder below this is sawed lengthwise in half, and one-half also removed. This leaves only the remaining half of the lower segment still hanging by the periosteum flap. It is brought up across the stump of the long shaft and held in place with a stitch in the bone on each side.

Revue Generale de Ophthalm. (Paris), July 31.

Periscopic Glasses. F. Ostwalt.—By taking photographs through the lenses, in similar conditions to those of the lens in relation to the eye, Ostwalt has discovered that judiciously selected menisci or planoconcave glasses are far preferable to the ordinary bispherical lenses for divergent glasses for distant vision. Instead of the biconcave, therefore, corresponding periscopic glasses should be prescribed, either meniscoid or planoconcave or asymmetrical biconcave. He gives a curve to guide the oculist in ordering divergent periscopic glasses and the manufacturer in making them. For convergent glasses the meniscus bulges too much to be practicable, particularly for patients after operation for cataract. But even in this case the symmetrical bispherical shape is not so favorable as the asymmetrical biconvex, which, with direct vision, gives the minimum of sphericity error, the front side having a radius of curvature six times larger than the other.

Berliner Klinische Wochenschrift, August 6.

Alterations of the Ganglion-Cells in Mental Diseases. E. Meyer.—The changes in the ganglion-cells in several groups of psychoses, with and without a clinically appreciable cause for the mental disturbances, were carefully studied. The same negative results were obtained in each, confirming the general experience that the ganglion-cell reacts in the same specific manner to irritations of all kinds, the alterations noted differing merely in the intensity and extent of the process, as can be determined with the present methods of research.

Idiopathic Transient Disturbance of Consciousness. Placzek.—The symptoms presented by persons resuscitated after being hanged, showing disturbances in the circulation of the cortex, were recalled by two cases recently observed by Placzek. In one—a healthy woman of 40 suddenly exclaimed: "I don't know what I am doing," acted strangely, forgot all the occurrences of the last twenty-four hours, with other symptoms of cortical disturbance, coinciding with the appearance of the menses. This condition gradually subsided, until, in the course of twenty-four hours, intense migraine appeared with subjective deafness, photophobia, etc. As the migraine passed off all the other symptoms vanished and they have never been noted since. Another similar case of abrupt change of character in a man subject to severe trigeminal neuralgia confirms the possibility of idiopathic, transient, isolated subdelirium in mentally sound individuals entirely free from any traces of hysteria, epilepsy or alcoholism.

Deutsche Medicinische Wochenschrift (Leipsic), August 9 and 16.

Blood-Pressure and Right-Handedness. A. Hecht and L. Langstein.—Examination of sixty-three young men, mostly soldiers, showed that in 95 per cent. the arterial tension was from 5 to 20 mm. higher on the right side, if the subjects were right-handed, and on the left side if left-handed. In one instance a soldier, naturally left-handed, had learned to use his right hand, but the blood-pressure—higher by 10 mm. on the left side—betrayed his natural propensity. Examination of the blood-pressure may thus afford valuable information in certain criminal cases.

August 16.

Chronic Non-Membranous Diphtheritic Affection. E. Neisser.—Five cases of a chronic affection of the upper air-passages are described, the patients being robust young maidservants or waitresses. The symptoms vanish during the summer, but as cold weather approaches the voice becomes hoarse, the throat dry, the mucous membrane of the nasopharynx atrophied and covered with tenacious mucous and grayish-yellow crusts. In only two cases was there a previous history of diphtheria, but in all the diphtheria bacillus was found constantly, and in almost pure cultures. The syndrome suggests rhinitis fibrinosa, but differs in the site, the absence of any pseudo-membrane and the chronic character. There was nothing to indicate ozena, the accessory cavities were intact. Antidiphtheria serum did not seem to have any influence on the affection. In the patients with antecedent diphtheria the serum possessed marked antitoxic properties, equivalent to 2000 immunization units in one case.

Peculiar Symptom-Picture With a Carcinoma of the Stomach. R. Schuetz.—In the case described, the carcinoma at the pylorus has caused such extensive degeneration of the stomach walls that the organ was reduced to a perpendicular tube about 13 cm. long, its rigid walls practically merely a continuation of the esophagus. The atony of the latter produced slight dilatation above the cardia and temporary stagnation of the contents, but the sound traversed it without difficulty to the pylorus.

Muenchener Medicinische Wochenschrift, August 14.

Coating on the Tongue in Health and Disease. J. Mueller.—*Investigation of the coating on the tongue in health and disease* shows that the organ is most frequently and noticeably coated in acute diseases, whether the digestive apparatus is primarily disordered or not. It is found much less frequently in chronic digestive affections; the proportion in chronic gastritis is *even less than that noted in healthy persons*. The leucocytes are always exceptionally numerous in the scrapings in case of carcinoma of the stomach and also of pulmonary tuberculosis. In all other conditions the coating differs only quantitatively in health and disease. Mueller attributes the increased coating in acute disease to the fact that the tongue is not mechanically cleansed of its thrown-off epithelium, as the patients eat and talk less than normally. Another reason is the desquamative catarrh which accompanies certain diseases. The coating is naturally thicker in persons in whom the *filiform papillæ* are most developed, and is absent on naturally smooth tongues, such as are frequently observed in elderly individuals.

Indications for Surgical Intervention With Ectopic Pregnancy. L. Prochownick.—The early mild or threatening symptoms are no guarantee of the future course of an extrauterine pregnancy. This depends on the location of the ovum, condition of the organ and secondary infection. An extensive experience has impressed Prochownick more and more with the conviction that the best and truest conservatism in these cases lies in early laparotomy. In case of gonorrheal antecedents intervention should be urged, and with even slight indications of temperature in rectum or vagina, all responsibility should be declined unless an operation is allowed. Only with early laparotomy is it possible to count upon restitution of the original conditions.

Suture of Common Carotid. F. Seggel.—An attempt at suicide by a man of 62 resulted in a slanting wound in the common carotid artery, 3 to 4 mm. in length, closed with a clot when received at the clinic an hour later. The artery was compressed with three forceps and three silk stitches taken in the walls, avoiding the intima, strengthened with three others as blood oozed when circulation was restored. The less extensive wound in the vein was also sutured and patient dismissed cured in a month.

Composing on the Typewriter. Seeligmueller.—From the long association of the left half of the brain with the act of writing, some persons find it difficult to write articles requiring much thought on the typewriter. The ideas are accustomed to flow from the left brain out to the pen in the right hand, and efforts to use the left hand on the machine interfere with composition. Seeligmueller counteracts this tendency by first writing out a rough outline of his article with the pen and then elaborating this on the typewriter. In order to concentrate all his attention on his composition, he never punctuates nor uses capitals, but adds these as he revises. It detracts very little from the appearance of the "copy," but adds immensely to the facility of mental composition on the machine.

Therapeutisches Monatsheft (Berlin), August.

Medicinal Treatment of Neurasthenia. Otto Dornbluth.—The writer regards the use of codein in neurasthenia as the greatest progress which the therapy of this affection has yet to record. It has a specific stimulating effect in overcoming morbid drowsiness when patients are compelled to keep continually at work. He has given it in small doses to overworked physicians, teachers, public officials, etc., and all have expressed the utmost gratitude for the relief and stimulating effect, whi[illegible] is not transient like that of the bromids, but lasts and even cures the majority of cases. He commences with .01 gm. three times a day and after four or five days increases to five or six times this amount, continuing with .02 gm. five times a day for four to six weeks, but suspending as improvement is evident. This specific stimulating influence is not due to the sedative effect; morphin and similar anodynes have none of it. He has found it equally effective in cases of psychic depression and melancholia. He considers remedies to improve the condition of the blood an important aid in the treatment of neurasthenia.

Therapie der Gegenwart (Berlin), August.

Influence of Anodynes on Gastric Secretions. F. Riegel.—The various anodynes and analgesics have been employed in gastric affections without much regard to their specific influence on the secretion of gastric juice. Riegel's tests have demonstrated that it is desirable in selecting a drug for the purpose to bear in mind that the belladonna preparations, and especially atropin, check the secretion of gastric juice almost completely, while morphin has exactly the opposite effect. Morphin, therefore, should be given in cases in which no injury is anticipated from considerable increase in the secretion of the gastric juice. On the other hand, when the secretion is already excessive, as is usual with ulcus, morphin is contraindicated, and one of the belladonna preparations will be found useful to diminish the over-secretion in addition to its analgesic effect.

Treatment of Ozena. F. Klemperer.—The base of all treatment of ozena is to keep the nasal passages absolutely clean. This deprives the affection of its chief evil features and is the only means of cure. Tepid salt solution is a good cleansing fluid. It is best applied with a nose pump, combined with preceding tamponing for an hour or so, and all night for each nostril in turn. The nose should be rinsed three times a day.

Cataplasms in Gonorrheal Joint Affection. A. Freudenberg.—*The benefits attained in gonorrheal arthritis and tendovaginitis with hot cataplasms* frequently renewed day and night, are extolled by Freudenberg, after eight years of experience, as truly remarkable. They obviate all danger of the ankylosis which is so common and early in these cases. He applies them to encircle the entire joint and extend several inches above and below. He has never seen any benefit from cold applications and has witnessed direct harm result from immobilization. He even treats gonorrheal prostatitis in the same way, with hot cataplasms to the perineum. In case of gonorrheal epididymitis, he commences with the ice-bag, changing to suspension and compresses of lead water, then to the Priesnitz, and then to the hot cataplasms. He has observed that too prolonged use of cold applications is apt to leave extensive indurations in the epididymis.

Gazzetta degli Ospedale (Milan), August 5 and 12.

Antidiphtheria Serum in Pertussis. R. Indica.—In seven cases of severe whooping-cough an injection of 10 c.c. of antidiphtheria serum had a marked effect in ameliorating and abbreviating the disease. The effect is similar to that obtained in diphtheria; the resisting powers of the organism are evidently increased.

August 12.

Surgery of the Cerebral Ventricles. A. Montini.—A child 3 years of age presented a typical case of chronic hydrocephalus and progressive idiocy with frequent convulsions, the parents and other children being robust. Montini trephined and drained the ventricle, removing 350 gm. of cerebrospinal fluid. The child had a violent convulsion and sank into coma, but after artificial respiration and other measures had been employed the benefits of the intervention were soon apparent in the complete cessation of the convulsions and convergent strabismus and control of the simple and co-ordinated movements.

Disarticulation of the Hip. E. Dominici.—The method proposed by Dominici, which he has found a great improvement over other methods of disarticulating [illegible] hip-joint, is to make a longi[illegible] incision above the [illegible]hanter down to the bone, [illegible]ting the [illegible] possible. The head [illegible] sli[illegible] bulum, passed out through the incision by twisting the limb and held in that position by an assistant. The soft parts are thus left without any bone and a strong elastic ligature is passed around them under the protruding bone. The limb is then amputated as required and the vessels ligated separately. The shoulder is treated in a similar way.

Vratch (St. Petersburg), July 8.

Plant Extracts React to Florence Sperm Test. D. L. Davidoff.—The substance in human semen which produces the characteristic reaction in the Florence test exists also in numerous plants, as similar crystals are produced by the action of the Florence reagent on aqueous extracts and also on the pollen and anthers of certain plants. The list Davidoff has tested is a long one and includes the chrysanthemum, hyacinth and varieties of tulips, with numerous dried medicinal herbs and the male flower of the maple. A drop of any of their extracts or infusions will simulate a drop of human spermatic fluid in its reaction to the Florence test, and he warns medical experts of the possibility of error from this cause in their deductions. Mistakes are especially liable to occur with homemade infusions of chamomile, elder and secale, which are in such common use, and in his experiments responded typically to the Florence reaction after having been dried on a cloth for two months. He also states that the cholin crystals obtained with silver oxid from the blossoms of the taraxacum, elder, etc., were more abundant and more characteristic than those derived from the yolk of an egg with either ether, alcohol, platinum chlorid or silver oxid.

Renal Lithiasis Cured with Uresin. I. B. Kudinzeff. Uresin or urotropinum dilithiocitricum has been unfailingly successful in the treatment of kidney gravel in Kudinzeff's experience. It not only abolishes the gravel and with it the irritation of the urinary passages, but also reduces the amount of uric acid in the urine and alters the elements that have been the factors in the production of the calculi. Relief is promptly evident after its administration and he has never had any cause for regretting its use in any way, but is becoming more and more impressed with its value the wider his experience. It is a combination of urotropin, lithium and citric acid.

Change of Address.

B. A Becker, 2612 W. Main St., Louisville, Ky., to Silver Lake, Wis.
Carl Booth, Carlow, to Barnes Medical College, St. Louis, Mo.
C. J. Beise, Tracy to Fergus Falls. Minn.
S. Brownstein, 16 Johnson, to 374 S. Halsted St., Chicago.
W. A. Bieringer, 104 Warren to 1903 Milwaukee Ave., Chicago.
L. M. Berg, 2032 Michigan to 2516 Indiana Ave., Chicago.
S. E. Cook, 1215 Ohio St., to Richards Blk., Lincoln, Neb.
H. P. Chesmore, Nodaway, to 823 Charles St., St. Joseph, Mo.
J. W. Crismond, 1333 Central Ave., to 1217 Meridian St., Anderson, Ind.
M. Crichton, 922 14th St., to 1141 Connecticut Ave., Washington, D. C.
R. R. Campbell, 204 Dearborn St., Chicago, to Phoenix, Ariz.
D. W. Detwiler, 2400 Dearborn St., Chicago, to Moravia, Iowa.
C. L. Dutton, Goldfield, to Boulder, Col.
Ralph Elmergreen, 327 3rd St., to 786 Twelfth St., Milwaukee, Wis.
A. E. Ford, Box, 949 Denver, Col., to Box 1250 Seattle, Wash.
J. L. Fleming, Dyersburg, to Jack's Creek, Tenn.
L. F. Foote, Elgin, Ill., to 125 W Lake St., Minneapolis, Minn.
G. R. Fox, P. O. Box 219, Plaquemine, to Moreauville, La.
A. U. Fuson, Stockton, to 3153 24th St., San Francisco, Cal.
J. S. Gashwiler, 1514 Michigan St., Kansas City, to Novinger, Mo.
H. F. Goodwin, 511 Ashland Boul., to 682 E. 44th St., Chicago.
R. F. Godard, Hazlehurst, Ga., to Citra, Fla.
T. A. Groover, Pidcock, Ga., to 1331 L St. N. W., Washington, D. C.
J. V. Hunter, Nimrod, to Waxhaw, N. C.
A. Hood, Lawndesboro, to Daleville, Ala.
J. P. Lakey, Daugherty, to McCullough, Tex.
R. B. Main, 2009 Massachusetts Ave., Washington, D. C., to Linden, Va.
I. T. McCarty, Kingston Center, to Constan, Ohio.
George M. Marshall, 26 S 3rd St., to 1273 N. High St., Columbus, Ohio.
W. T. Moffett, 346 State St., Jacksonville, to Blue Mound, Ill.
C. F. Osborne, Hanlontown, to Aredale, Iowa.
Vance Offut, Bedford, to Campbellsburg, Ind.
E. W. Peet, 20 W. 43rd St., to 348 Central Park W., New York City.
Emma S. Powell, La Crew, to Baker Blk., Ottumwa, Iowa.
J. P. Prestley, 1266 Congress, to 1273 Van Buren St., Chicago.
H. M. Pomeroy, 650, to 950 W. Washington St., Los Angeles, Cal.
E. S. Riggs, Hamill's Point, Muskoka, Can., to 38 Prospect Ave., Washington, Pa.
Walter E. M. Ranchous, 20 S. 3rd, to 1273 N. High St., Columbus, Ohio.
J. B. Shober, 112 S. 17th to 1731 Pine St., Philadelphia, Pa.
R. M. Straw, Milton Center, to Cygnet, Ohio.
W. H. Seton, Emmitsburg, Md., to 168 W. 96th St., New York City.
J. D. Tuten, Jr., Cooper, La., to Jasper, Fla.
C. S. Venable, Charlottesville, Va., to Pall Mall Am. and Col. Exchange, Carlton and Regent Sts., London, S. W., England.
F. V. Watson, 4658 State St., Chicago, to Antigo, Wis.
H. M. Williams, Oklahoma City, to Cushing, O. T.

Queries and Minor Notes.

THE HIPPOCRATIC OATH.

Baltimore, Md., Aug. 5, 1900.

To the Editor:—Will you inform me if you can supply me with a copy of the "Hippocratic Oath?" If so, please give price and description of same; if you have not a copy, kindly inform me of some place where I can get it. Yours truly, C. K. Y.

Ans.—The "Hippocratic Oath" has been published many times; it is given in full in Dunglison's Practitioner's Ready Reference Book, and in several encyclopedias. It is too long to reproduce here.

MEDICAL LAWS.

Oneida, Tenn., Aug. 19, 1900.

To the Editor:—Will you kindly give me the laws regulating the practice of medicine in Indiana, regarding state boards and graduates from a three-year school? Very respectfully, J. A. S.

Ans.—Applicants for license to practice medicine in Indiana must be *bona fide* residents of the county and state, must procure the necessary application blank from the county clerk, which, properly filled, with the diploma and a fee of $10, must be sent to the State Board of Medical Registration, Room 120, State House, Indianapolis. If satisfactory, the Board will issue its certificate, which, on presentation to the county clerk, will entitle the applicant to a license. If not satisfactory an examination must be passed, the fee for which is $25. The Board has recently passed a resolution "that no applicant from any other state for a certificate shall be granted one on conditions more lenient than those required of applicants from Indiana by the examining board of the state from which he comes." An applicant from Tennessee would, therefore, probably have to pass an examination. For further particulars, address Dr. W. F. Curryer, Secretary of the State Board of Registration, Indianapolis, Ind.

New York, Aug. 28, 1900.

To the Editor:—Kindly inform me of the laws in regard to the practice of medicine in the states of Wisconsin and Michigan. Yours truly, M. A.

Ans.—The essential points in the medical practice law of Wisconsin were given in The Journal of April 7, p. 893, and those of Michigan in the number of July 28, p. 265. The inquirer is referred to these issues.

RED CROSS MEDICAL ASSOCIATION.

Peoria, Ill., Aug. 25, 1900.

To the Editor:—Will you please inform me as to what you know concerning the Red Cross Medical Association? What success have they had in the East? You will do me a great favor if you answer at once. Yours, E. H.

Ans.—As we understand our correspondent's question, he refers to an organization designed to supply medical attendance to subscribers. From looking it up it appears to us to be simply lodge practice, and The Journal has repeatedly expressed its editorial opinion against this. So far as we know, the organization has not extended very far in any part of the country, and we should hope it will not become popular, as it seems to us merely a scheme for making money out of the medical profession. Our knowledge is confined to newspaper articles and one or two of its circulars.

LITERATURE ON DIETETICS AND HYDROTHERAPY.

Bodie, Cal., Aug. 11, 1900.

To the Editor:—Will you kindly inform me of a good work or magazine on dietetic literature and hydrotherapy? Sincerely, J. E. C.

Ans.—We do not at present recall any prominent work or magazine specially devoted to these two subjects alone. There are several journals devoted more or less to dietetics, some of them advocates of fads. There are none that we could specially recommend in all respects.

KNAPP'S ARCHIVES OF OTOLOGY.

New Washington, Ohio, Aug. 27, 1900.

To the Editor:—Please inform me where *Knapp's Archives of Otology* is published, and price of same. Very truly, A. E. L.

Ans.—*Knapp's Archives of Otology* is published by G. P. Putnam's Sons, 27 and 29 W. 23rd St., New York, price, $4 per year.

HOSPITAL CONSTRUCTION.

Shreveport, La., Aug. 20, 1900.

To the Editor:—Please recommend to me some of the standard works on "The buildings, constructions, arrangements and maintenance of hospitals," and oblige, J. A. S.

Ans.—We do not know of any recent general work on the subject published in this country. Burdett's Hospital Annual, which goes under this name, though the title varies, is perhaps the best general manual. Burdett's Hospitals and Asylums of the World, 4 vols., London, J. and A. Churchill, 1891, is a large and expensive work. The volume of essays, published by the Johns Hopkins Hospital some twenty years ago may also be referred to. We refer the inquirer also to an article by Dr. McDill, in The Journal of January 21, 1899.

CLEANLINESS OF BARBERS' INSTRUMENTS.

Ishpeming, Mich., Aug. 29, 1900.

To the Editor:—I think I have seen in The Journal lately, but I can not say where, some articles on the subject of cleanliness of instruments, etc., of barbers. If you can tell me where I can find anything on the subject I would be much obliged. Very truly yours,
T. A. F.

Ans.—We have not published any articles recently on the subject you mention, but we have editorially noticed the subject during the past year or two. You will find articles, notably one by A. W. Suiter, of Herkimer, N. Y., in the Proceedings of the American Public Health Association. His article was read in 1897 and has probably excited as much interest as any, though it is a short one. There have been laws regarding the barber trade passed in several states, Minnesota, Nebraska and Missouri, for example, and possibly others. Dr. Suiter's article was abstracted in the Proceedings of the Public Health Association in volume xxix, p. 1070, of The Journal, Nov. 20, 1897.

GLANDULAR TREATMENT OF HAY FEVER.

La Harpe, Ill., Aug. 29, 1900.

To the Editor:—Will you please tell me where I can get any literature on the treatment of hay-fever by the thyroid or suprarenal extracts? Have you any reprints of Dr. Beaman Douglas on this subject? Yours truly,
J. C. A.

Ans.—The literature on suprarenal extract is comparatively recent. The inquirer is referred to a paper of Dr. Bates in The Journal of August 11, and to that of Dr. Murphy in the *Lancet-Clinic* of April 7 (abstracted in The Journal of April 21, p. 993); of Dr. Aldrich, *Medical Standard* September, 1899 (abstracted in The Journal of Sept. 23, p. 786); of Dr. Bulette, *Denver Medical Times*, November, 1899 (abstracted in The Journal of Nov. 25, p. 1349), etc. Dr. Beaman Douglas' paper, also abstracted in The Journal of Sept. 9, 1899, p. 660, was published in the *New York Medical Journal* of Sept. 2, 1899. It may be that a reprint can be obtained by application directly to the author. See also our advertising pages.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., August 8 to 21, 1900, inclusive:

George F. Adair, acting asst.-surgeon, now at Fort Sheridan, Ill., to report to the commanding officer of that post for duty with the 5th Infantry, under orders for foreign service.

W. Edson Apple, acting asst.-surgeon, leave of absence granted, on the expiration of which he will report at San Francisco, Cal., for duty with troops for foreign service.

Orlando Ducher, major and surgeon, Vols., former orders amended so as to direct him on expiry of his present leave of absence to report by letter to the Surgeon-General.

Harry C. Gemmill, acting asst.-surgeon, from Fort Thomas, Ky., to accompany the 2d Infantry, under orders for foreign service.

J. Randolph Harmer, acting asst.-surgeon, from Washington, D. C., to Fort Fremont, S. C., for post duty.

Philip F. Harvey, major and surgeon, U. S. Army, from the Presidio of San Francisco, Cal., to Nagasaki, Japan, to establish a base hospital at that place.

John Van R. Hoff, major and surgeon, U. S. Army, to proceed without delay to Taku, China, and report in person to Major-General Adna R. Chaffee, U. S. Vols., for duty as chief surgeon on his staff.

Alvis B. Kennedy, acting asst.-surgeon, former orders directing him to proceed to San Francisco, Cal., to accompany troops on foreign service revoked.

Thomas J. Kirkpatrick, Jr., lieutenant and asst.-surgeon, U. S. Army, member of a board at Washington Barracks, D. C., to examine candidates for appointment as second-lieutenants in the Army.

Edward E. Lambkin, acting asst.-surgeon, previous orders amended so as to direct him to proceed from Baltimore, Md., instead of from St. Louis, Mo., to the Department of California.

Edward L. Munson, captain and asst.-surgeon, U. S. Army, member of a board at Washington Barracks, D. C., to examine candidates for appointment as second-lieutenants in the Army.

Arthur B. Smith, acting asst.-surgeon, from San Francisco, Cal., to the U. S. General Hospital, Fort Bayard, N. M., for temporary duty.

Bat Smith, acting asst.-surgeon, now at Fort Sheridan, Ill., to proceed to Wharton, Tex., for annulment of contract.

Benjamin B. Warriner, acting asst.-surgeon, from Fort Fremont, S. C., to San Francisco, Cal., for duty with troops going on foreign service.

James A. Alexander, acting asst.-surgeon, leave of absence granted.

Irvin E. Bennett, acting asst.-surgeon, from duty in the Department of Porto Rico to San Francisco, Cal., for duty with troops en route for China.

George M. Bradfield, acting asst.-surgeon, from Fort Ontario, N. Y., to Philadelphia, Pa., for annulment of contract.

Ira C. Brown, major and surgeon, Vols., leave of absence extended.

Edward T. Comegys, major and surgeon, U. S. Army, from San Francisco, Cal., to Nagasaki, Japan, as medical supply officer at that place.

Alfred C. Godfrey, acting asst.-surgeon, from Fort Washakie, Wyo., to San Francisco, Cal., for duty with troops destined for foreign service.

Guy C. M. Godfrey, captain and asst.-surgeon, U. S. Army, previous orders directing him to report for duty in the Philippines suspended.

Lewis A. Griffith, lieutenant and asst.-surgeon, 42d Infantry, Vols., having tendered his resignation is discharged from the service of the U. S., to take effect August 20, 1900.

Charles W. Hack, acting asst.-surgeon, from the Department of Dakota to duty at Columbus Barracks, Ohio.

Aubray F. Higgins, acting asst.-surgeon, from the Department of California to duty with troops going on foreign service.

Herbert M. McConathy, acting asst.-surgeon, from duty in the Department of Porto Rico to Washington Barracks, D. C., for duty with Battery M, 7th Artillery, en route to San Francisco, Cal., for foreign service.

Henry E. Menage, acting asst.-surgeon, previous orders amended so as to require him to proceed from New Orleans, La., to Fort Wingate, N. M., for duty.

Charles B. Nichols, acting asst.-surgeon, from Fort Wingate, N. M., to San Francisco, Cal., for duty with troops going on foreign service.

Auguste A. Nonel, acting asst.-surgeon, from Fort Leavenworth, Kan., to New York City, N. Y., for annulment of contract.

Lieven de Poorter, acting asst.-surgeon, now in New York City, N. Y., on expiry of his leave of absence to proceed to New Orleans, La., for annulment of contract.

Benjamin F. Pope, lieutenant-colonel and deputy surgeon-general, U. S. Army, and Samuel O. L. Potter, major and surgeon, Vols., members of a board convened in San Francisco, Cal., to examine candidates for appointment as second-lieutenants in the Army.

Dwight C. Powell, acting asst.-surgeon, from Logansport, Ind., to Fort Thomas, Ky., for duty with the battalion of the 2d Infantry, under orders for foreign service.

James F. Presnell, acting asst.-surgeon, now at Fort Leavenworth, Kan., for duty with the 1st Infantry, under orders for foreign service.

Merton A. Probert, acting asst.-surgeon, from Constantia to Columbus Barracks, Ohio, for temporary duty.

Willis J. Raynor, acting asst.-surgeon, from Denver, Colo., to Fort Washakie, Wyo., for post duty.

M. A. Rebert, acting asst.-surgeon, leave of absence granted.

William E. Richards, lieutenant and asst.-surgeon, U. S. Army, from the Department of Porto Rico to post duty at Plattsburg Barracks, N. Y.; a subsequent order sends him instead to Fort Ontario, N. Y.

Henry A. Shaw, captain and asst.-surgeon, U. S. Army, from the General Hospital at San Francisco, Cal., to Nagasaki, Japan, for duty at the general hospital to be established there.

W. I. Tanner, acting asst.-surgeon, leave of absence granted.

Dwight B. Taylor, acting asst.-surgeon, from Columbus Barracks, Ohio, to Fort Thomas, Ky., to accompany troops to San Francisco, Cal., returning thereafter to his proper station.

Albert E. Truby, lieutenant and asst.-surgeon, U. S. Army, former orders amended so as to grant leave of absence, on the expiration of which he will proceed from New York City to Havana, Cuba, for assignment in the Division of Cuba.

The following acting asst.-surgeons to proceed from the places designated to San Francisco, Cal., for assignment to duty with troops destined for foreign service: Howard H. Bailey, Washington, D. C.; Louis Brechemin, Jr., Philadelphia, Pa.; William C. Mabry, Cleveland, Ohio; Clemens W. McMillan St. Louis, Mo.; Robert E. Noble, New York City, N. Y.; Lorin B. Ohlinger, Alleghany, Pa.; Joseph A. O'Neill, New York City, N. Y.; Luke B. Peck, Brookline, Mass.; John A. Rafter, West Winfield, N. Y.; William Roberts, Washington, D. C.; J. Ralph Shook, Greencastle, Pa.; Charles A. Sturtevant, West Somerville, Mass.; Henry J. Watson, Ottumwa, Iowa; George Wilklow, Ellenville, N. Y.; John D. Brooks, Washington, D. C.; William E. Cass, St. Louis, Mo.; L. d'Orville Chabut, Youngstown, Ohio.; George R. Clayton, Nevada, Iowa; William J. Condon, Jamesburg, N. J.; Harry A. Cossitt, Morris Plains, N. J.; U. S. Grant Deaton, Thackery, Ohio; Paul R. Fletcher, St. Louis, Mo.; Jacob F. Hadley, Passaic, N. J.; A. Bruce Henderson, Batavia, Mich.; Gustavus I. Hogue, North Lake, Wis.; William V. Kellogg, Detroit, Mich.; Frederick A. Lewis, Walworth, N. Y.; Howard D. Lewis, Baltimore, Md.; James I. Mabee, Rockwood, Mich.; Robert C. Macy, Mobile, Ala.; R. Boyd Miller, Lamar, Mo.; George S. Mintzner, Philadelphia, Pa.; Edwin W. Patterson, Washington, D. C.; Louis J. Perkins, Pendleton, Ore.; Willard D. Preston, Attica, N. Y.; James A. Rabbett, Elkins, W. Va.; George A. Renn, Raleigh, N. C.; James C. Rutledge, Detroit, Mich.; Charles F. Sanborn, Willard, N. Y.; C. Edward Sears, Salem, Va.; Joseph F. Siler, New York City, N. Y.; Calvin D. Snyder, Baltimore, Md.; Lewis H. Wheeler, Westport, Conn.; William A. Wickline, Warm Springs, Mont.

New Patents.

Changes in the Medical Corps of the U. S. Navy for the week ending Aug. 25, 1900.

P. A. Surgeon L. L. Von Wedekind, ordered to temporary duty at the headquarters of the Marine Corps, Washington, D. C., August 22, and then to the *Richmond*

Medical Inspector J. R. Waggener, transferred from the naval hospital, Cavite, P. I., to the naval hospital, Yokohama, Japan, for treatment.

Surgeon G. Pickrell, detached from the naval hospital, Yokohama, Japan, and ordered to the Cavite Naval Station.

Surgeon O. D. Norton, detached from the *Monocacy* and ordered to duty with the marine regiment in China.

Pharmacist S. W. Douglass detached from the *Massasoit* and ordered to the Key West Naval Station immediately.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the United States Marine-Hospital Service for the seven days ending *Aug. 23, 1900:*

Surgeon George Purviance, to report at Washington, D. C., for special temporary duty; thence to proceed to Baltimore Quarantine Station as inspector.

Surgeon H. R. Carter, granted leave of absence for twenty days from Aug. 24.

Surgeon J. H. White, to proceed to Baltimore Station as inspector.

Surgeon W. P. McIntosh, granted leave of absence for seven days.

Asst.-Surgeon A. R. Thomas, granted leave of absence for one month from Sept. 15.

Asst.-Surgeon L. E. Cofer, granted leave of absence for one month and ten days from Sept. 21.

Acting Asst.-Surgeon B. J. Brown, granted leave of absence for fourteen days from Aug. 12.

Acting Asst.-Surgeon W. W. McKay, granted leave of absence for four days.

Acting Asst.-Surgeon Lee W. Staton, granted leave of absence for ten days from Aug. 12.

Hospital Steward J. V. LaGrange, granted leave of absence for ten days from Sept. 11.

APPOINTMENT.

George A. Morris, of Michigan, appointed junior hospital steward Aug. 15, 1900.

Health Reports.

The following cases of smallpox yellow fever, cholera, and plague, have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended Aug. 25, 1900:

SMALLPOX—UNITED STATES.

Alaska: Cape Nome, Aug. 18, 6 cases.

California: Oakland, July 7-14, 2 cases.

Kansas: Wichita, Aug. 11-18, 2 cases.

Louisiana: New Orleans, Aug. 11-18, 5 cases, 7 deaths.

Massachusetts: Lowell, Aug. 11-18, 2 cases.

Minnesota: Minneapolis, Aug. 11-18, 2 cases; Winona, Aug. 7-21, 7 cases.

New York: New York, Aug. 11-18, 1 case.

Ohio: Cincinnati, Aug. 10-17, 5 cases; Cleveland, Aug. 11-18, 12 cases; Dayton, Aug. 11-18, 6 cases; Portsmouth, Aug. 11-18, 1 case.

Utah: Salt Lake City, Aug. 11-18, 1 case.

Washington: Tacoma, Aug. 4-11, 1 case.

SMALLPOX—FOREIGN.

Brazil: Rio de Janeiro, June 30-July 13, 13 deaths.

Costa Rica: Port Limon, Aug. 8, 1 case.

England: Liverpool, July 31-Aug. 4, 7 cases; London, July 21-Aug. 4, 18 cases.

France: Lyons, July 22-29, 1 case; Paris, July 14-Aug. 4, 5 deaths.

India: Bombay, July 10-24, 11 deaths; Calcutta, July 7-21, 26 deaths.

Malta: June 16-30, 11 cases, 1 death.

Mexico: City of Mexico, Aug. 5-12, 3 cases, 3 deaths; Vera Cruz, Aug. 4-11, 1 death.

Russia: Moscow, July 21-28, 2 cases.

Spain: Madrid, June 30-July 28, 77 deaths.

Straits Settlements: Singapore, June 30-July 7, 1 death.

YELLOW FEVER.

Brazil: Rio de Janeiro, June 30-July 13, 13 deaths.

Cuba: Cienfuegos, Aug. 17, 1 case.

Colombia: Bocas del Toro, July 20-Aug. 3, 4 cases, 2 deaths; Panama, Aug. 6-13, 3 cases, 1 death.

France: Havre, Aug. 9, on Steamship *Caravalles*, from Senegal, Africa, 1 case.

CHOLERA.

India: Bombay, July 10-17, 239 deaths; Calcutta, July 7-21, 105 deaths; Madras, July 14-20, 3 deaths.

Japan: Osaka and Hiogo, July 21-28, 1 case, 1 death; Yokohama, July 7-28, 2 cases, 2 deaths.

PLAGUE.

Australia: Sydney, June 30-July 14, 4 cases.

Brazil: Rio de Janeiro, June 30-July 13, 74 cases, 31 deaths.

India: Bombay, July 10-17, 60 deaths; Calcutta, July 7-21, 107 deaths.

Japan: Formosa, June 21-July 12, 82 cases, 63 deaths.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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MEMBERSHIP IN THE AMERICAN MEDICAL ASSOCIATION.

The qualifications for membership require that the applicant be a member, in good standing, of a state or local medical society entitled to send delegates to the annual meeting of the American Medical Association. A list of these societies will be sent on request. Applications must be accompanied with a certificate showing that the applicant is a member of a recognized society, and should be sent with the annual dues—five dollars—to the treasurer, Dr. Henry P. Newman, 100 Washington Street, Chicago. Members receive The Journal free. Subscribers to The Journal may become members of the Association without additional expense if they are members of medical societies recognized by the Association. Those desiring to have their names transferred from the subscription to the membership lists should send certificates as above, with a receipt for their subscription to The Journal, covering the current fiscal year.

FISCAL YEAR.

The fiscal year of the American Medical Association is from January 1 to December 31; and the annual dues paid by a new member cover only the fiscal year, no matter at what time of year the membership is obtained. Those who pay their dues and join the Association at the annual meeting in June, for instance, pay only for the fiscal year which ends with the December following, and the annual dues for the following fiscal year are payable the succeeding January, at which time the treasurer sends a statement to each member. Such members, however, are entitled to The Journal for the full year, even though the membership be not continued.

PAPERS READ AT THE ANNUAL MEETING.

"Every paper received by this Association and ordered to be published, and all plates or other means of illustration, shall be considered the exclusive property of the Association. . . The Board of Trustees shall have full discretionary power to omit from the published transactions, in part or in whole, any paper that may *be referred to it by the Association or either of the Sections,* unless specially instructed to the contrary by vote of the Association." (From Article V of the By-laws.)

NEWS.

Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to members of the medical profession. We shall be glad to know the name of the sender in every instance.

ORIGINAL PAPERS.

Articles are accepted for publication with the understanding that they are contributed solely to this journal.

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Half-tones, zinc etchings and other illustrations will be furnished by The Journal when photographs or drawings are supplied by the author.

ADVERTISEMENTS.

Advertising forms go to press eight days in advance of the date of issue. Therefore, in sending in copy, time should be allowed for setting up advertisements and for the sending and return of proofs. Advertising rates will be made known on request.

CHANGE OF ADDRESS.

In ordering a change of address it is important that both the old and new addresses be given.

REMITTANCES.

Remittances should be made by check, draft, registered letter, money or express order. Currency should not be sent, unless registered. Stamps in amounts under one dollar are acceptable. Make all checks, etc., payable to "Journal American Medical Association," except those for annual dues. These should be made payable and sent direct to the Treasurer, Dr. Henry P. Newman, 100 Washington Street, Chicago.

The Journal of the
American Medical Association

Vol. XXXV CHICAGO, ILLINOIS, SEPTEMBER 15, 1900. No. 11.

Original Articles.

INFANTILE CEREBRAL PALSY.

CLASSIFICATION OF TWENTY-FIVE CASES, WITH ILLUSTRATIONS.*

A. C. COTTON, A.M., M.D.
CHICAGO.

Under infantile cerebral palsy I would include all conditions of impaired function due to cerebral lesion, even if the only symptom be mental deficiency or epilepsy. It will be seen that an extremely wide range of disorders will thus be brought into one clinical group, which would include the restricted congenital spastic rigidity of Little; the cerebral type of hereditary spastic paraplegias described by Frend, Erb, Sachs and others, as well as the lighter forms in which but slight evidence of any paresis is to be discovered at the time of examination.

The following twenty-five cases—save one—are selected from my clinical records of the past year, as fairly illustrative of the majority of the commoner types of infantile palsy:

Case 1.—Edith N., aged 10 years. Family history negative. Patient is the eldest of four children, all the others being normal. Labor lasted twelve hours. No instruments were used. Mother's health was not as good as usual during pregnancy.

Up to the age of four months nothing unusual was noticed, excepting that she was very irritable. Eruption of teeth began at four months, when she had a severe convulsion, lasting from ten to fifteen minutes. Since then there have been frequent repetitions, at times two to four daily.

When about a year old she began to use a few words, but these were soon dropped and there has been no further acquirement of speech. She had never stood alone and could not sit nor support her head. Intelligence *nil*. Had to be cared for as an infant.

The head measured 19 inches; the eyes reacted to light and accommodation; the mouth was kept open; the lips were thick; the upper jaw was prominent, and the teeth projecting. The thyroid was enlarged; the chest emaciated; there was flaring of ribs, and scoliosis. Organs and abdomen were negative. The contractures of hands and arms were imperfectly overcome by slow exercise of force; the skin was cold and cyanotic; the legs were contracted at hips and knees, the right being always crossed over the left.

Case 2.—Clara H., aged 10 years. Family history negative. Labor normal, of twenty-four hours duration. No instruments were used. Birth weight, four pounds. In infancy it was noted that she never used arms or legs. At 1½ years she had a convulsion, which had been repeated at varying periods, often monthly. They had increased in intensity; always occurring at night. Contractures of limbs were noticed at about 2 years. Had never sat, walked, or talked. Seemed to understand the most of what was said to her. Had control of sphincters and could indicate when she needed to evacuate bladder or bowels.

The head measured 19 inches; strabismus; the mouth was kept open; the tongue protruding, and saliva escaping; the thyroid was not palpable; contractures at the elbows, wrists, and fingers, also at the hips and knees and left scoliosis; there was deep depression at the sternum; viscera normal; extremities cold and emaciated, and reflexes exaggerated.

Case 3.—Valeria D., aged 5 years. Family history negative. Labor lasted thirty-six hours, forceps being used late in the case. Had a continuous spasm for three days; since then there have been many recurrences of convulsions, usually apparently due to some indigestion.

The head measured 19½ inches; the expression idiotic; the mouth open; continuous drooling; a high arched palate; diplegia; marked spasticity in lower extremities, less in upper; thyroid slightly enlarged; when excited there was an odd tremor of the lower jaw; repeats a few easy, short words; unable to walk, sit, or even support head; has always had to be fed and has difficulty in deglutition; idiotic.

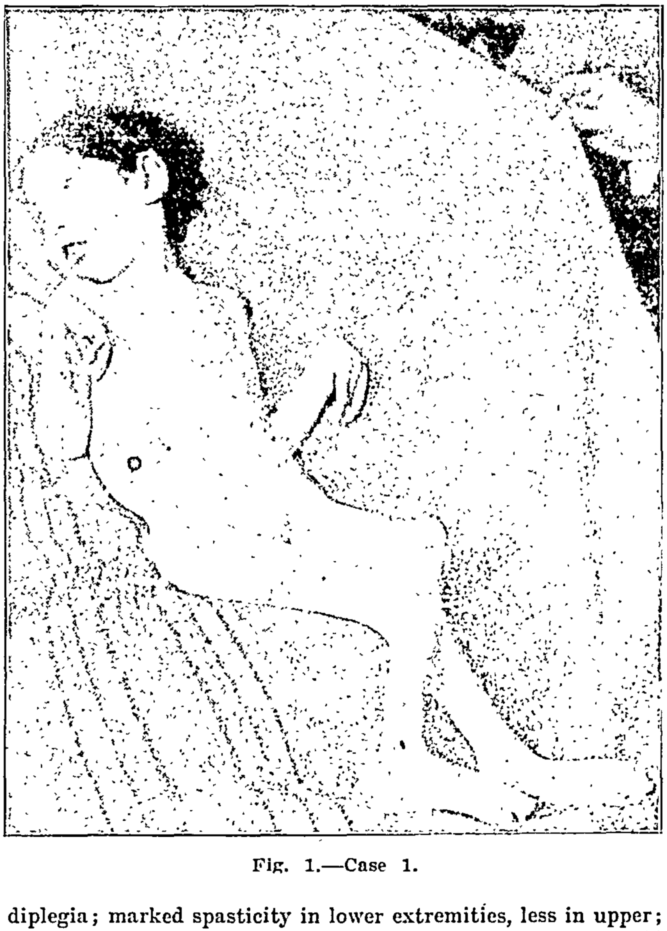

Fig. 1.—Case 1.

Case 4.—Maud B., aged 3 years. Difficult labor; premature at eight months. Strabismus, athetosis, diplegia, rigidity, contractures, mental impairment, microcephalic, and without speech. Has never had convulsions.

Case 5.—Mattie K., aged 10 years. There had been four other children, all of whom are dead. The first pregnancy resulted in twins, who were born after a labor of five days.

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*Presented to the Section on Diseases of Children, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

Both died during the first day of life. A still birth followed. This patient was born after the third gestation, and since there has been another child who only lived twelve hours. At birth patient was too weak to nurse, and is said to have weighed two and one-half pounds. The labor was difficult, forceps finally being used. Infant was comatose one hour and a half after birth. It was noticed as early as three weeks that if startled she would hold her breath until deeply cyanosed. This has not occurred since the age of 2 years. She recognized mother at 8 months; eruption of teeth took place at 12 months; talked at 24 months; walked at 40 months. There has been a tendency to reaction of the head since birth. Always easily frightened.

The head measured 19¾ inches. Strabismus. Articulation slow and indistinct, accompanied by contortions of body and limbs; reflexes exaggerated; slight contractures of both upper and lower limbs; the hands, fingers, and, to less degree, the toes, show athetoid movements; besides these there are present choreiform movements of whole body. nearly constant; said to *be as bright as any child of her age; fond of music,* and is able to assist in housework.

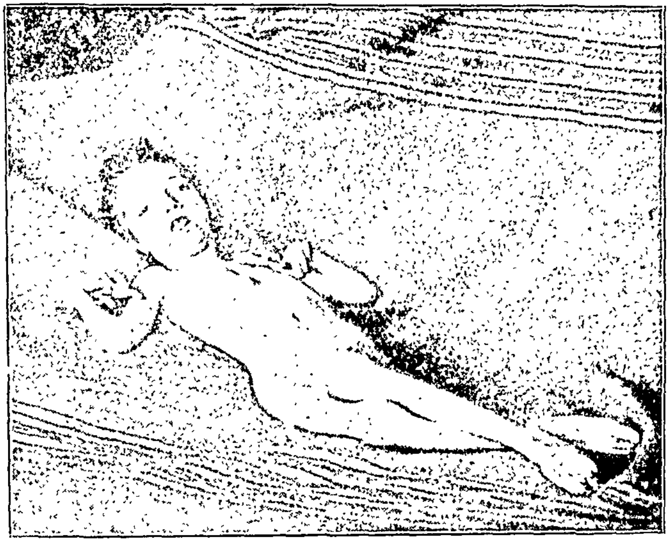

Fig. 2.—Case 2.

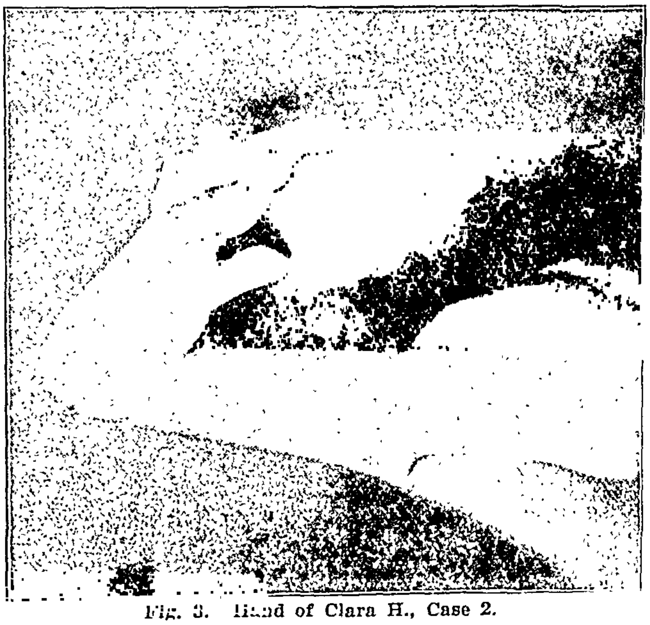

Fig. 3. Hand of Clara H., Case 2.

Case 6.—Clara H., aged 4 years. There are two other children living and normal. During gestation her mother had pneumonia and did not recover strength the whole term. Parturition was easy. Weight at birth, five pounds, and she seemed very weak; breast fed; dentition normal. Did not walk alone until 3 years of age; also slow about talking. Well developed; voice husky; speech slow; chest and abdomen negative; appetite good, and bowels regular. No incontinence of urine or feces. Gait uncertain and staggering, knees touching, but feet far apart; tendency to fall backward. If running, is unable to stop quickly; inco-ordination of upper limbs; impossible to detect condition of reflexes.

Case 7.—Dora S., aged 3 years. Four other children, all living and well. Development normal until 1 year old, when she fell down stairs, striking on back of head. Six months after this fall she stopped walking, and now can not stand or sit alone; is not able to hold up head unsupported. The head measures 22½ inches; the fontanel open; no protrusion of the eyeballs; the chest and abdomen negative; mental condition nearly normal; reflexes exaggerated; uses a few articulate sounds.

Case 8.—Florence H., aged 11 years. Both parents living and well. The history of pregnancies of the mother is: 1, twelve hours' labor, child living and normal; 2, three days' labor, stillbirth; 3 and 4, miscarriages; 5, six hours' labor, Florence, "blue," and did not become red for twenty-four hours; 6, miscarriage; 7, six hours' labor, child an epileptic.

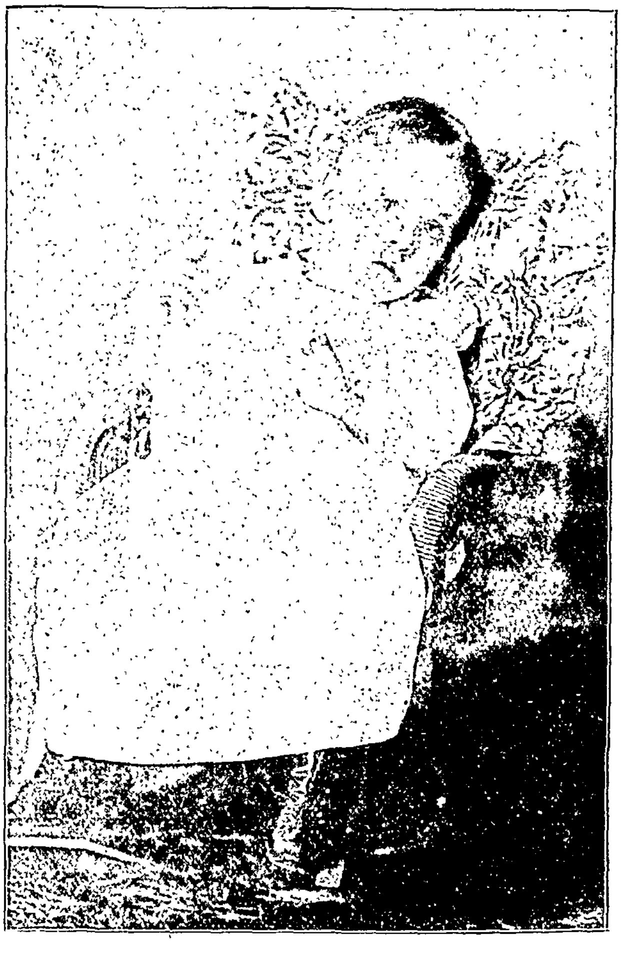

Fig. 4.—Case 4.

At 18 months had convulsions for half a day, and recurrences every three months or oftener, up to the 7th year. At 5 years she had a convulsion which lasted twelve hours; afterward could not use right arm for two months. She did not stand for a week, and then dragged right foot in walking. At 7 years she had a very severe, prolonged attack, which involved both sides—all previous attacks had affected the right side only. Following this there was paralysis for three months, and she did not speak for four months. Has not had a spasm since the one at 7 years of age. The head measured 20½ inches; the child now speaks as one of 2 years would do.

Case 9.—B. L., aged 8 years. One of a family of seven children, of whom four are living. A prolonged labor, forceps being finally used; asphyxiated three hours: recurring spasms the first five days of life: none since. The head was *normal* in size; right hemiplegia; a marked intention tremor in both arms; no nystagmus; the speech is slow, monotonous and indistinct; the voice husky, and uses very few words; mental impairment; the gait is uncertain, with tendency to cross-legged progression.

CASE 10.—Giovanni S. Labor normal. Birth weight said to be fourteen pounds. Eruption of first tooth at 3 months, when he was very restless, had fever, rolled head from side to side and the eyes became crossed. Was ill for two months, at end of which time he cut a second tooth. After this he seemed better generally, but strabismus continued and he made no effort to use left arm or leg. Thumb of that hand is so tightly adducted that it was necessary to interpose cotton to prevent maceration of skin. Each time he cut a tooth he had a return of nervous symptoms. Has never had any other illness. The head is symmetrical and measured 18⅞ inches. Ptosis of both upper eyelids, and partial paralysis of muscles of face. Strabismus and left hemiplegia; slight spasticity.

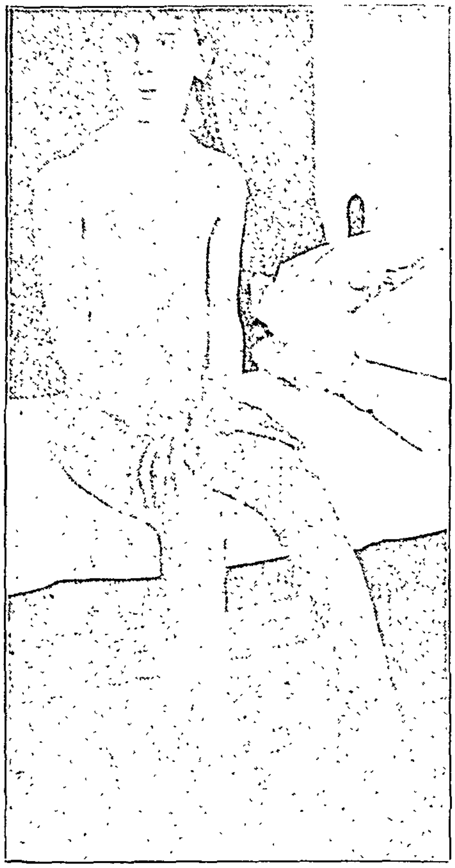

Fig. 5.—Case 5.

CASE 11.—Lillie B., aged 6 years. The youngest of three children, the others being normal, mentally and physically. Labor was normal; delicate and did not walk until 4 years of age. The mother can not tell when the difference in the two sides was first noticed; never had convulsions. The head was undersized, measured 19 inches, expression idiotic, strabismus; mouth open the greater part of the time; did not talk; was very restless, in almost constant motion, and frequently laughed immoderately; right hemiplegia more marked in upper extremity; walked and ran around, but dragged right foot; had no control of bladder or bowels; fond of music; had a habit of biting forefinger of right hand.

CASE 12.—Edith C., aged 3 years. Both parents undersized and the father shows many stigmata of degeneration, viz., small head, projecting upper jaw with irregular teeth; lower jaw receding; high palate; voice high and falsetto. No history of specific infection. An older child died at 6 months of some cerebral trouble. Patient had an attack of meningitis with convulsions during the first year. When seen a right hemiplegia was discovered, but the exact date of its onset it has not been possible to secure. She had no teeth; did not walk or talk at 1 year of age; has had frequent digestive disturbances, with fever, constipation, and vomiting. Insomnia, irritability, and restlessness marked at times; has never walked or stood alone; only uses four or five words; picture showed large, misshapen head; ptosis of left eye; partial paralysis of face; right hemiplegia, and deficient mental development.

CASE 13.—Della S., aged 8 years. Mother healthy; father for past seven years had had "spinal disease," probably locomotor ataxia. Patient was healthy up to two years of age. At that time she was struck on the head, producing a wound that bled freely. Two weeks after injury, while nursing, she suddenly stiffened and began to twitch limbs. This continued for a short time, then the muscles relaxed, though she did not regain consciousness, and spasms were repeated at intervals of five hours. The following day she seemed fully recovered. Two or three weeks later she had a similar attack, followed by coma, lasting through the whole night. For the next six months she seemed quite well; talked, walked, played, etc., and at 2 years of age she had learned to speak some English and German. When 2½ years old she had a severe convulsion, perfect relaxation not coming for four hours. Following this she did not seem to notice anything; did not talk; one side of face was drawn, and right side of body and limbs were paralyzed. Six weeks later she began to walk and to use her arm. The leg gradually improved, as did the face, but the arm and hand have shown less improvement. Complete aphasia lasted for three years. She has acquired a limited vocabulary since, but this is wholly in English. Since the severe convulsions of 2½ years there had been no [illegible] ago when she began to have "spells;" [illegible] to her mother as if frightened, stared [illegible]

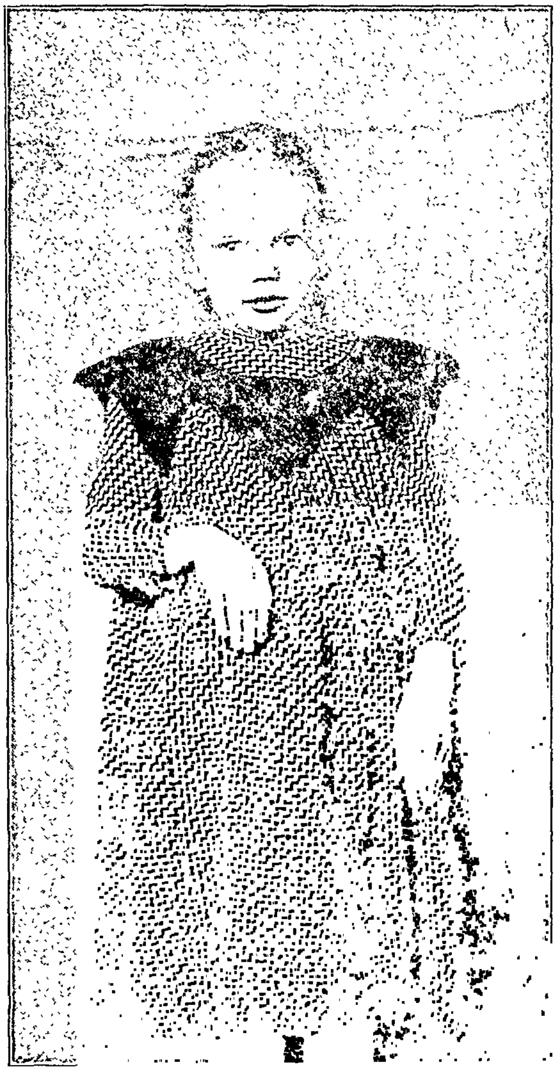

Fig. 6.—Case 8.

of twitch muscles. These lasted only a minute or two, but were frequent, sometimes daily.

CASE 14.—Herbert C., aged 25 years. Family history negative. Well up to 6 months of age, at which time he had an attack of meningitis, during which he had several convulsions. He lay in a semi-comatose condition for several days and recovery was not looked for. Following this there was a right hemiplegia, with strabismus. Did not walk alone until 5 years of age. By the aid of braces and walking machines he learned to walk, for a considerable time with a staggering, uncertain gait. He was slow also in learning to talk, enunciation being difficult and indistinct. Was generally good-natured. When 12 years of age he was sent to Lincoln to the school for feeble-minded. He attended two years and made great improvement, learning the use of paretic hand and arm so as to be able to use musical instruments and tools in gardening. The body developed, but right side never attained full size or strength. Spasticity was moderate, and even this seemed less after about 10 years.

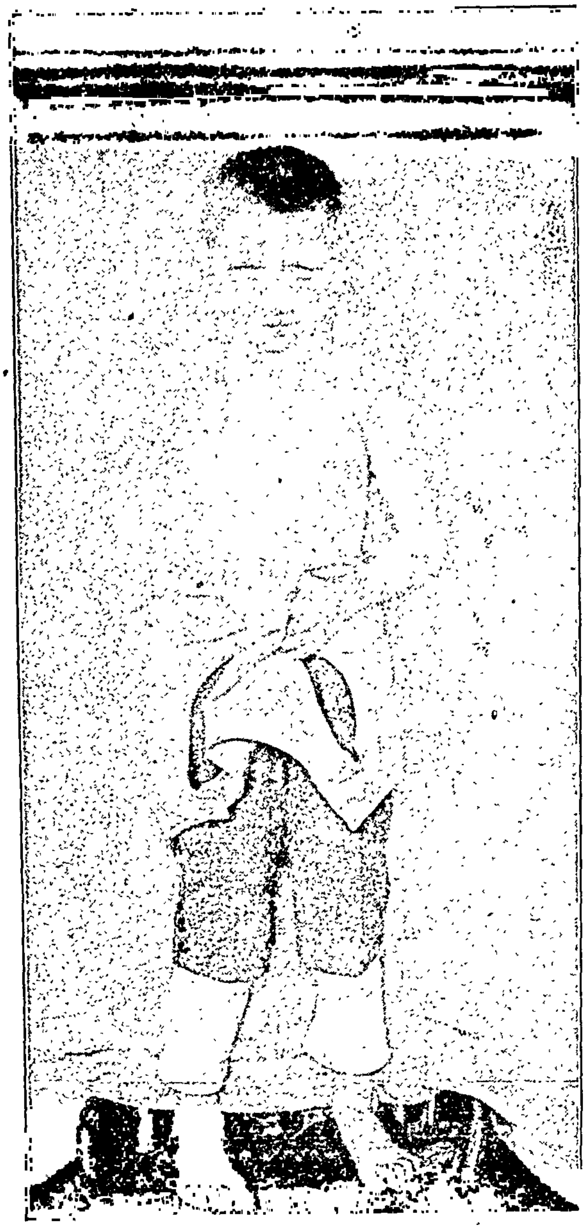

Fig. 7.—Case 9.

CASE 15.—Annie D., aged 3 years 8 months. Second in family of four children. The eldest this last winter had an attack of meningitis, which was followed at varying intervals by epileptic seizures. The labor was normal. At 4 months of age patient had pneumonia, from which attack she did not recover for two months. At the same time she had a suppurative otitis media. During that time it was noticed that the right side was not used as freely as the left. At present she is well developed and nourished. The affected side is a little smaller than the opposite. The head is normal in size; strabismus, right hemiplegia, contracture and rigidity; slow about learning to talk, did not attempt to talk until 3 years of age, and speech is still very limited, with articulation indistinct. She understands all that is said to her, and shows no deficiency in mentality. Reflexes are exaggerated. Has never had any convulsions.

CASE 16.—Celia C., aged 9 years. Second child in a family of six, all the others living and well. Parents in good health. She was well until October, 1899, when she had a suppurative cervical adenitis. This opened spontaneously, and nothing further was noticed until early in March, 1900. On coming home from school one day she complained of pain in left side of the chest, and headache. She was restless during the night, and in the morning began having general convulsions, and became unconscious and cyanosed. With only short intervals of partial relaxation she continued in convulsions for nine days. Since then there have been no recurrences, but following these there was left hemiplegia. The pupils react to light; the hand is nearly a typical claw hand. She is very irritable and noncommunicative, rarely asking or answering questions unless so inclined. She hears and understands quickly.

CASE 17.—Eva T., aged 4 years. Family history negative. She had never had any illness; had never walked, and had not even been able to stand; strabismus since six months old; had never had convulsions. The head measured 21 inches; the face large and expressionless; reflexes exaggerated; spasticity of legs which were held stiffly extended; intelligence almost *nil; made a few sounds which her mother could interpret.*

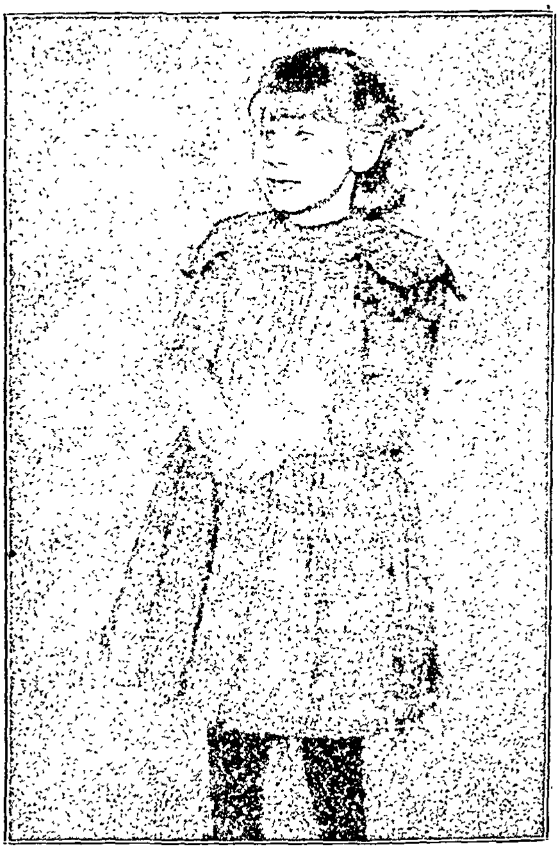

Fig. 8.—Case 11.

CASE 18.—Giovanni H., aged 6 years. History incomplete, as his mother understood and spoke but very little English. His father was described as not strong enough to work, "no good." There were five other children, all living. An older sister, a girl of 14 years, had had several attacks of chorea, and another sister showed some mental deficiency. The head measured 19 inches; the ears stood far out from the head; Darwinian tubercles present; eyes wide apart; saddle-shaped jaw; lanugo all over body. Musculature was good, but patient could not walk any better than a child 1 year old; his mental development also was backward, not being able to talk better than a child of 1½ years; never had convulsions.

The acompanying tabulated outline shows the common clinical features:

Fig. 9.—Case 12.

Fig. 10.—Case 13.

Sex.— Of this collection 18 are females and 7 males. The majority of the writers on this subject have stated that more boys are affected. Osler reported that he found no difference in the sexes and Gowers' cases showed more girls than boys.

Time of Onset.—The table shows that the probable commencement of the disease dates from or before birth in 17, while in 5 of the remainder the symptoms developed during the first year. This agrees with the findings of others, who report that the large majority occur under one year. It would seem to corroborate the opinion that the "younger the infant the greater the damage done; the more immature the brain, the more is its development likely to be interfered with." Nevertheless, Collier holds that the tissues of the young have more inherent vitality for repair than do those of later life.

Exciting Causes.—An analysis of the exciting causes from the clinical histories gives: Accidents of birth 7, or 28 per cent.; accidents, infections or autointoxication during infancy or childhood 7, or 28 per cent.

Form.—The high percentage of diplegics in this table —7 out of 25, 28 per cent.—attracts our attention. In the large number of cases collected by Sachs and Peterson the diplegics form only 15 per cent.

Fig. 11.—Case 14.

Convulsions.—Eighteen, or 72 per cent., gave history of convulsions during some part of the disease. In fact, it is most frequently for this symptom that the child is brought to the clinic.

Mental Conditions.—As to mentality, it is seen that out of 11 double-sided lesions 7 are idiots, two others are mentally impaired, while 1 only is nearly normal. Out of the 8 hemiplegics only 2 are idiots, 5 more or less impaired. and 1 nearly normal, which shows the preponderance of damage from lesions affecting both sides of the brain.

Size of Head.—That over half are microcephalic, merely emphasizes the well-known fact that there is an arrest of brain growth in these cases. In fact, the same arrest may occur in the hydrocephalic. It is nothing more than fair to call attention to the fact that some of these cases are seen so early after the onset that added time would doubtless show a still larger number of disproportionately small heads.

Irregular Movements.—The small number of patients (2) exhibiting athetoid movements will attract attention, and these two were both found in diplegics, as seen in the illustrations (Nos. 4 and 5). This is contrary to general observation.

Dysphasias.—As might be expected, dysphasia, more or less marked, seems to be the rule. It is interesting to note that the cases showing improvement in speech, after complete arrest, were hemiplegic. This is suggestive of the utilization of the unaffected side of the cerebrum, which comes to the relief of aphasia caused by lesions occurring in early life. Of the 7 cases of diplegia, 4 show permanent dysphasia, 1 can say but a few monosyllables, 1 is slow of speech and 1 has difficult speech from paresis of muscles required in vocalization.

In this last case, Mattie K., it may be mentioned that the mentality shows but slight, if any, permanent impairment. This is proved by the fact that she learned readily the fortnight she was sent to school and that she is bright and useful around the house. The interesting feature of this case is the escape from mental impairment in a case of diplegia, although presenting nearly all of the typical symptoms, viz., spasticity, contractures, convulsions, microcephalia, strabismus, ptosis, exaggerated reflexes with athetosis, choreiform and associated movements.

Fig. 12.—Case 16.

In the case of B. L., with history of long labor and forceps delivery, followed by eclampsia for five days; child asphyxiated for three hours; right hemiplegia, spasticity, contractures, exaggerated reflexes and some mental impairment, we have a marked intention tremor, which, with his slow, monotonous speech, is suggestive of multiple sclerosis of the cord; but it lacks the nystagmus commonly associated with these lesions. Spencer found, out of 130 autopsies, 4 on stillborn infants, 30 with hemorrhage into the spinal cord and canal. With this in mind, may it not be fair to presume that this child suffered from spinal as well as a cerebral hemorrhage?

Case 21.—Mamie Q. is 10 years of age, with slight mental impairment, choreiform movements, convulsions, and a history of meningitis at one year. Although presenting no spasticity, contractures, paralysis, exaggerated reflexes or difficulties of speech, I have classed this as a case of cerebral palsy. Sachs says: "The choreiform movements occurring after cerebral palsies deserve some special notice, for such conditions are at times mistaken for cases of ordinary chorea.

Case 22.—Male, aged 5 years, 6 months, a microcephalic idiot, with marked lalopathy and history of convulsions, is also wanting in the usual distinguishing symptoms, as are Cases 23, 24 and 25. These four cases, I believe, are properly rated as cerebral palsies under the broader classification given at the beginning of this paper. As long as we use the term "cerebral palsy," should we not include thereunder all conditions in which the principal etiologic factor is evidently a brain lesion, affecting the motor, speech or intellectual areas, whether due to thrombosis, embolism, hemorrhage or meningitis, resulting in sclerosis, effusion, growth or porencephaly?

Fig. 13.—Case 17.

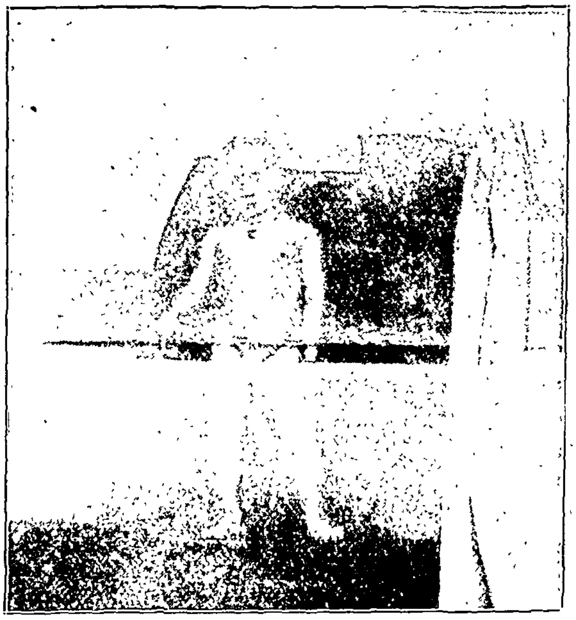

Fig. 14.—Case 18.

DISCUSSION.

Dr. William M. Leszynsky, New York—Regarding idiocy and imbecility, I think they may often be classed in the same category as the infantile cerebral palsies, for the latter are frequently associated with mental enfeeblement. I was surprised to hear Dr. Wilmarth say that better individual train-

No.	Name, Sex, Age.	Etiology.	Exciting Cause as Given by Family.	Form of Paralysis.	Spasticity.	Contracture.	Convulsions.	Mental Condition.	Size of Head.	Reflexes.	Strabismus.	Ptosis.	Athetoid, Choreic or Associated Movements.	Speech absent, limited or difficult.
1	E. N., F., 10 yrs	Prenatal	Dentition	Diplegia	Present	Present	Yes	Idiot	Microcephalic	Exaggerated	No	No	No	Absent.
2	C. H., F., 10 yrs.	Prenatal	Unknown. Wt. at birth 4 lb	Diplegia	Present	Present	Yes	Idiot	Microcephalic	Exaggerated	Yes.	Yes.	No	Absent.
3	V. D., F., 5 yrs	Natal	Long labor; forceps	Diplegia	Present	Present	Yes	Idiot	Microcephalic	Exaggerated	No	No	Choreic.	Limited.
4	M. B., F., 3 yrs	Natal	Premature (8 mos.). Dystocia.	Diplegia	Present	Present	No	Idiot	Microcephalic	Exaggerated	Yes.	No	Athetosis	Absent.
5	M. K., F., 10 yrs	Prenatal	Dystocia and forceps. Wt. 2½ lb	Diplegia	Present	Present	Yes.	Nearly normal	Microcephalic	Exaggerated	Yes.	Yes.	Choreic and associated.	Difficult.
6	C. H., F., 4 yrs	Prenatal	Mother had pneumonia during gestation. Weight 5 lb.	Diplegia	Present.	Present.	No	Impaired	Microcephalic	Impossible to detect.	No	No	Choreic.	Difficult and slow.
7	D. S., F., 3 yrs.	Post-natal.	Fall at 1 year	Diplegia	Very slight	Very slight.	No	Normal	Macrocephalic	Exaggerated	No	No	No	Absent.
8	F. H., F., 11 yrs.	Prenatal	Asphyxia	Right hemiplegia.	Absent	Absent	Yes.	Impaired	Microcephalic	Normal.	No	No	No	Limited.
9	B. L., M., 8 yrs	Natal	Long labor; forceps; asphyxia	Right hemiplegia.	Present	Present	Yes.	Impaired	Normal	Exaggerated	No	No	Intention tremor.	Limited.
10	J. S., M., 10 mos.	Natal	Dystocia. Weight 14 lb	Left hemiplegia	Present	Present	Yes.	Impaired	Macrocephalic	Exaggerated	Yes.	Yes.	No	(Too young.)
11	L. B., F., 6 yrs.	Prenatal	Unknown.	Right hemiplegia.	Present	Present	No	Idiot	Microcephalic	Impossible to detect.	Yes.	No	No	Absent.
12	E. C., F., 3 yrs.	Prenatal	Meningitis first year	Right hemiplegia.	Slight.	Slight.	Yes.	Idiot	Macrocephalic	Exaggerated	Yes.	Yes.	No	Absent.
13	D. S., F., 8 yrs.	Post-natal.	Accident at 2 years.	Right hemiplegia.	Present	Present	Yes.	Impaired	Normal.	Exaggerated	No	No	No	Limited.
14	H. C., M., 25 yrs	Post-natal.	Meningitis at 6 months.	Right hemiplegia.	Present	Present	Yes.	Impaired	Macrocephalic	No record.	Yes.	No	No	Limited.
15	A. D., F., 3⅔ yrs	Prenatal	Pneumonia at 4 months	Right hemiplegia.	Present	Present.	No	Nearly normal.	Normal.	Exaggerated	Yes.	No	No	Did not begin to talk till 3 yrs. old.
16	C. C., F., 9 yrs.	Post-natal.	Meningitis at 9 years.	Left hemiplegia	Present.	Present	Yes.	Impaired,	Normal.	Exaggerated	No	No	No	Taciturn.
17	E. T., F., 4 yrs	Prenatal	Unknown	Paraplegia	Present	Present	No	Idiot	Macrocephalic	Exaggerated	Yes.	No	No	Very limited,
18	J. H., M., 6 yrs	Prenatal	Unknown	Paraplegia	Present	Absent	No	Impaired	Microcephalic	Normal.	No	No	No	Very limited.
19	E. B., M., 13 mos.	Prenatal	Meningitis at 3 months.	Paraplegia	Absent	Absent	Yes.	Idiot	Macrocephalic	Exaggerated	Yes.	No	No	(Too young.)
20	R. S., F., 3 yrs.	Natal.	Forceps. Weight 5 pounds	Paraplegia	Present	Absent	Yes.	Idiot	Microcephalic	Exaggerated	No	No	Head banger	Absent.
21	M. Q., F., 10 yrs.	Post-natal.	Meningitis at 1 year	Only evidence in choreiform movements.	Absent	Absent	Yes.	Nearly normal.	Normal.	No record.	No	No	Choreic	Normal.
22	R. P., M., 5½ yrs	Post-natal.	Digestive disturbance at 5 yrs.	None	Absent	Absent	Yes.	Idiot	Microcephalic	Normal.	No	No	No	Repeats words 6 or 7 times.) Limit'd.
23	A. G., M., 4 yrs	Prenatal	Digestive disturbance at 1 yr.	None	Absent	Absent	Yes.	Impaired	Microcephalic	Impossible to detect.	No	No	No	Limited.
24	E. R., F., 2½ yrs.	Prenatal	Catheterization at 1 day.	Right facial and ocular.	Present	Present.	Yes.	Idiot	Microcephalic	Impossible to detect.	Yes.	No	No	Absent.
25	M. H., F., 3 yrs.	Post-natal.	Fall at 1 year	None	Absent	Absent	Yes.	Idiot	Microcephalic	Normal.	No	No	No	Absent.

ing could be brought about in institutions than at home. There are certain exceptions to this rule; for, under proper surroundings, individual management, I think, can be carried out better at home, or in a very small institution in which only four or five children are taken. As to the circulatory disturbances, I do not think that Dr. Taylor has proved his point. It seems to me that they are more probably the result of a cerebral defect reacting through the vascular centers in the brain. Much more can be said about infantile cerebral palsy. I think it would be an excellent rule for the general practitioner to examine every child brought to him suffering from epilepsy for evidence of infantile cerebral palsy. These children may make a certain amount of recovery, and the condition of partial paralysis may not be manifested sufficiently to attract the patient's attention, until symptoms of epilepsy are developed, either in the form of petit mal or grand mal. The most unsatisfactory epileptics to treat are those in whom the epilepsy is a terminal condition of the cerebral palsy.

Dr. J. P. Crozer Griffith, Philadelphia—The mistake is very commonly made of calling many cases chorea, Friedreich's ataxia, etc., which are really due to cerebral injuries in early life.

I wish to call attention to the rarity of tremor as a post-cerebral symptom. I notice that Osler, in his book on cerebral palsies, reports, out of all his cases, only one of post-hemiplegic tremor. I have myself seen only one case. It is certainly a comparatively rare condition, whereas the spastic conditions—the cases of single or double choreiform movements—are undoubtedly very common indeed.

I can heartily indorse what Dr. Leszynsky has said about the relation of cerebral palsy to epilepsy.

Dr. J. Madison Taylor, Philadelphia—In reply to Dr. Leszynsky's criticism of Wilmarth's assertion that the best treatment for defective children is to be had in institutions for the management of imbeciles, I desire to say that at one time I entertained the same opinion, because there was reason to believe, from analogy, that home treatment should be the best. I wish to say now that experience has taught me differently, and I am convinced the best results can be had by systematized and specialized instruction among children of the defective classes, with others of similar grade alongside of them as stimulants to effort. It is easy to imagine that the opportunities afforded by limitless wealth might give an equal or better training at home, but I am sure that the average case can be better handled in institutions properly equipped for such instruction. The subject is most important, and one on which the physician is constantly consulted, and he needs to form clear concepts on the matter.

Dr. Cotton—We are all anxious to hear what those who are conducting an educational system for this unfortunate class have to report. With one exception, these twenty-five cases were taken from my clinical records of the past year. The exception is the case represented by photograph No. 14. The child had meningitis at 6 months. There were repeated convulsions, and a semi-comatose condition supervened, which lasted four days. At 12 years of age the child was sent to the School for Feeble-Minded in Illinois. He improved there so that he could play in a band and could use certain tools. The outlook for that case was at first gloomy, but the results have been such that I believe the importance of educational work can not be overestimated.

THE MILK-CONTROL IN THE KAISER UND KAISERIN FRIEDRICH HOSPITAL IN BERLIN.*

DR. SOMMERFELD.

ASSISTANT CHEMIST AT THE HOSPITAL.

BERLIN.

In this report I shall deal with the determination of temperature, the specific weight, the chemical analysis of foreign matter and the bacteriologic examination.

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*Presented to the Section on Diseases of Children, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

When the milk is brought into the hospital, the dairymaid takes the temperature of the milk, and makes a record of it, which is filed in the journal of the laboratory at the end of each month. The temperature shows whether the milk has been properly cooled. It should not have a higher temperature than 10 C. If it should be higher the sender is notified, who must remedy this, and if it occurs again he is subjected to a fine. The specific weight is obtained by means of an exact areometer. If there is any doubt we first take the specific gravity of full milk, allow the cream to rise in a cylinder, remove the skimmed milk by means of a faucet near the bottom of the cylinder and again take the specific gravity. After a great many examinations, we find that full milk from our stable has a specific gravity of 1029 to 1032; and skimmed milk of 1032 to 1038. By testing the acidity of the milk we frequently can determine its freshness in suspicious milk delivered. The acidity is determined by a sample taken from a can, a second sample being put into a thermostat and allowed to remain there for one hour at a temperature of 37 C. If there is any difference between the two, the milk is at once questioned, and regarded as not being fresh. To determine this, 25 c.c. of milk are mixed with eight to ten times as much distilled water, to which 1 c.c. of a 2 per cent. alcoholic phenolphthalein solution has been added. To this is added a solution of barium hydrate, 10.69 gm. of baryta to a liter of water. This is filtered until it leaves a faintly red color. To secure this with our infants' milk we need from 15.8 to 17.5 c.c. of barium solution, whereas with the ordinary milk we need from 16 to 19 c.c.

Exact chemical and also bacteriologic examinations are made at different times, or when specially called for. Through sudden and unexpected taking of samples we obtain valuable analytical data. Such analyses are made for the determination of dry substances, fats, albumin, sugar, mineral salts, acidity and specific gravity. Dry substances and fats are determined at least once a week. The first is accomplished by subjecting 10 c.c. to a temperature of 110 C. for twenty-four hours in a platinum vessel. Fats are determined by the Soxhlet's areometric method, or after the Libermann-Szekely-Weiss method: In a small glass-stoppered cylinder 50 c.c. of milk are placed, to which 5 c.c. of caustic potash, 50 c.c. of petroleum ether—low boiling—and 50 c.c. of alcohol (96 per cent.) are added and shaken three times, for five minutes each time. The whole layer of fat is contained in the petroleum-ether, from which all liquid parts can be removed with the pipette and evaporated to dryness. The dried residue which remains after being subjected to a temperature of 105 C. is weighed and the comparative amount estimated. Our infants' milk during the last three years has contained 3.26 per cent. of fat.

To determine the amount of milk impurities we examine several times each week. This is done after the method of Renck-Stutzer, improved by Sommerfeld. This consists of a jar with a stopper, containing about 1½ liters, having an additional small bucket on its side which ends in a faucet. All sharp corners serve as dirt-receivers, and have been avoided, therefore the apparatus is rounded from top to bottom. This is filled with a known quantity of milk, and is kept standing for about two hours. By this time the foreign matter has settled and sedimented in the small compartments. The clear milk is now drawn off by the faucets on the sides. The attached utensil is taken off and the milk, combined with the dirt, put into a goblet, diluted with water, and then put into a filter, which has previously been weighed. This is washed over and over again with distilled water until the filtered portion is perfectly clean, then washed once with alcohol, and once with ether, and lastly dried at a temperature of 110 C. Thanks to the thorough cleanliness, the milk for nurslings seldom contains doubtful masses of dirt. As the cream rises in the apparatus while standing, we utilize the same opportunity for determining the specific gravity of the skimmed milk, since this runs off first on opening the faucet.

The bacteriologic examination of the milk is made with a view to determine the character of the bacteria present. The determination of the various forms is made in special instances, e. g., with the milk of newly-acquired cows, and when any special cow is suspected. A great many bacilli and cocci are utilized for cultures and animal experiments, to see how they affect sterile milk and to prove their harmlessness. As the cows are under the supervision of physicians, and as the milk is never used in the raw state, we have seldom occasion to examine the milk for pathogenic micro-organisms, since it is a known fact that pathologic bacteria are destroyed at 100 C. Nevertheless, we convince ourselves that none is present, especially the tubercle bacillus, by injecting guinea-pigs at monthly intervals with milk sediment procured by centrifuging. Up to the present we have found none that are pathogenic. To count the number of germs it is necessary to dilute 0.1 c.c. of milk with sterile water, the milk being taken from the cans in a sterilized pipette, and, depending on the time of the year, to inoculate either nutrient gelatin or nutrient agar therewith.

The counting is done by means of Petri dishes, which are used in making the cultures, the under side divided into squares. The gelatin plates are put into a temperature of 22 C., and are counted after twenty-four to forty-eight hours, whereas the agar plates at the same temperature are counted after twenty-four hours. Samples of the milk are taken from the sterilizer and put into the thermostat at a temperature of 37 C., to prove how long the milk will keep. Milk specimens which do not curdle during the first twenty-four hours shows that the lactic acid bacilli are killed. As the milk is used within ten hours after the sterilization, in the wards, of the hospital, we take samples of milk from the ice after eight hours. The negative results of our examination prove that the sterilization has been satisfactorily performed, although we frequently see, on the other hand, that the milk could hardly be classed as germless.

THE MILK-SUPPLY IN THE KAISER UND KAISERIN FRIEDRICH HOSPITAL IN BERLIN.*

PROF. DR. A. BAGINSKY.
DIRECTOR OF THE HOSPITAL.
BERLIN.

The attention given by American physicians to milk-supply and milk-sterilization for nurslings prompts me to give my experience in this regard, for I believe that in our hospital we have reached the highest point attainable on this subject. Depending on our milk-supply from neighboring stables, and having noticed the inadequacy of this supply, we made it a point to acquire such a stable for the hospital, especially since we, through an arrangement with the municipal authorities, were called upon to treat a large number of sick nurslings in which the strictest possible care of both the production and the milk-supply could be maintained and carried out. Owing to the success attained in this regard we have not found it necessary to establish our own dairy. By means of contracts we are able to control several special milk-dealers who are compelled to carry out the rules given them, and they have learned that only the most exact attention to detail will prevent our criticism. In order, therefore, to produce the best possible product of a dairy, it has been necessary for me to watch every detail, and in this I have been most ably supported by my assistant, Dr. Sommerfeld.

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*Presented to the Section on Diseases of Children, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

The control of the milk-supply necessarily begins with the stable, which is divided into two floors, and is built of Rathenower bricks, iron and cement. The lower floor is divided by a large massive wall into two parts, which have separate entrances, a larger and a smaller, the upper story representing one room. The dimensions of the buiding, which has large windows on both the longest sides are: length, 30 meters; breadth, 11 meters; height, 4 meters. The floors throughout are of massive stamped cement, and are sloped so that there is a thorough flow into the sewer. The walls are covered with glazed brick to the height of a man, over which is a coat of white paint. The cows stand on so-called food tables, which are placed at right angles to the longest side of the stable. These tables are made of cement, 2 meters wide and 8.50 meters long, in which mangers of glazed clay are placed. In the upper stable there are three such tables which are arranged for seven cows on either side, so that forty-two animals can be kept in the entire stable. The food tables are more practical than the mangers which run along the whole wall, because one can better oversee and observe each animal separately. The separate stands for the cows are raised and are 2.75 meters long, sloping with a heel in the back. In the standing and lying position the buttocks of the cows stick out over the stand so that the animals very seldom lie with the udder in the dung. The water-supply is furnished by means of an automatic working "self-drinker," which is attached to the water-works. The animals can in this way drink when they want to, the waste water being replaced by running fresh water.

The larger portion of the lower stable is arranged exactly like the upper portion. There are two feeding stands intended for procuring milk from 28 cows fed on dry fodder only, the smaller portion contains six stands for the observation of specified cows. This serves as a quarantine, and isolating stable for newly-acquired cows, and eventually for cows which show signs of sickness. In all the stables the cows stand on sawdust, which, on account of its cleanliness, is more approved than the dark black turf grass, the filth being more noticeable and calling for a better cleaning. The disinfecting element of the turf-grass is less advantageous than that of the sawdust. The stables are cleaned by washing and flooding the floors and the tiled walls; also by frequently whitewashing the walls. The manure is pushed through convenient openings directly into brick pits built in the yard adjoining the walls.

The dairy is entirely separated from the stables, and is in a special building. This is very light, and is on a level with the cellar, where an evenly cool temperature is obtained. It is finished throughout—the floors, walls and ceiling—with flat white bricks, has well-water supplied by the water-works of Berlin and a cooling apparatus. Here the fresh-drawn milk from the stable is filtered, cooled and put into the cans ready for transportation. Utensils and cans in which the residue of milk remains can not be brought into this space. In the same manner we prohibit the entrance of dairymen, drivers and others not employed in this department. All soiled utensils are placed in a special wash-room adjoining the dairy, entirely separated from this room by means of a wall, and having a distinct entrance.

The cows belong to the Holland breed, and are under constant veterinary supervision. All animals are injected with tuberculin and only those animals totally free from tuberculosis are put to use. The injection of tuberculin is repeated several times. If the weather permits, the animals are given several hours of outdoor exercise, which has proved of great advantage.

The feeding is done in two ways. The animals whose milk is to be used for infants are given dry fodder. Swill is entirely forbidden for those receiving moist fodder. It has been frequently noticed that from the residue made by the distillation of brandy from potatoes and corn, animals have a tendency to diarrhea, and their milk has a tendency to produce toxic conditions, the nature of which can not be proved by either bacteriologic or chemical examinations. The dry-fed cows get the best of clover, certain residues from a brewery, wheat, bran and rye, and to stimulate the appetite, small quantities of dry cut molasses. The cows receiving moist fodder are given turnips, rye-bran, wheat-bran and hay. The proportional quantities of the amount of the entire feeding are the following:

Dry fodder: To 500 kilo., live weight, 12.5 kilo. clover, 2.5 kilo. rye-bran, 2.5 kilo. wheat-bran, 1.5 kilo dry treber.

Moist fodder: To 500 kilo., live weight, 22.5 kilo. moist fodder, 20 kilo. turnips, 0.75 kilo. rye-bran, 0.75 kilo. wheat-bran, 4 kilo. hay.

From this feeding we receive 8 liters of milk per day with dry fodder and 10 to 11 liters with moist fodder. The animals are milked three times a day, at 3.30 a.m., and 12.30 and 4.30 p.m.

Before milking, the damp stable is cleaned. The dirt is swept together after the dampness has disappeared, and the passageways are flooded with water. Immediately before beginning work, the dairymen are compelled to thoroughly cleanse themselves, and especially wash and scrub their hands with soap and water, and then to carefuly cleanse the udder of each animal with soap and warm water, and a clean cloth. On thorough cleansing of the udder great stress is laid, because therein lies the greatest chance of infecting the milk from the dirt of the stable, hair, etc. We believe that by using the above-mentioned precautions, we can safely dispense with milking machines.

The freshly drawn milk must be immediately taken from the stable and brought to the dairy. When there are a large number of cows, the milk taken from the first must not remain until all are milked. The reasons for this immediate removal of milk are the danger of contamination with bacteria, which are found in the air of the stable and are mostly of the hay and potato variety and are very hard to destroy, and the fact that warm milk easily absorbs odors, such as perspiration from the cow, so that it tastes like a "cow stable." The milk is immediately filtered and cooled in the dairy. The filtration is done through linen cloths, which are boiled each time after being used; the cooling is done by the aid of a cooling apparatus. By this careful method of collecting the milk, its filtration through boiled and clean linen cloths has proved sufficient. This is simple and inexpensive method. Filtering ap if the filter is not carefully cleaned—by steam—are very good harbors for dirt and bacilli. The filtering cloths, on the contrary, easily can be kept clean and sterile by thorough boiling. The cooling machine is a square zinc-plate box, whose broad front, back and sides are made of tin. Through openings made in the narrow side-walls a stream of cold water flows down on the inside and flows out again through openings in the opposite side. The milk flows through a cooled interior, and has its outflow in a receptacle placed below. The spaces between the separate indentations are very small, so that the milk can not flow off too rapidly, as part of it is retained through its capillarity. In this way the slowly-flowing milk is cooled by passing over a large area. The cool water flows from a deep well and may be cooled still further by passing through an ice-box. The cooled milk at the time of the delivery has a temperature of 10 C. The transportation utensils —milk cans—in which the milk is transmitted to the hospital, are made of galvanized tin, and can be opened to ensure thorough cleaning. If the cans can not be cleaned immediately after the milk has been emptied they are filled with water, as dried milk residues are very hard to remove and might be overlooked. Milk is obtained three times daily, and sent three times to the hospital. It is strictly forbidden to deliver milk which has stood some time. (See article on "Milk Control.")

In the hospital the milk is received bv a maid especially employed for this purpose, who has no other duties but the storing and sterilizing of milk and attending to all duties pertaining thereto. She is especially instructed regarding her duties, and the fact is made clear to her that the life and health of the children depend on the careful and strict fulfilment of her duties. She must therefore see that her body is kept absolutely clean. Her uniform consists of a wash dress and a large white apron, covering the entire body. Before beginning her work she must cleanse her hands with a brush, soap and lukewarm water. The dairymaid inspects the cans as to their cleanliness on receiving them and tests the temperature of the milk. Irregularities, such as the non-delivery at the stated times, poor measure, improper cleaning of cans, wrong temperature of the milk, etc., must be immediately reported to the chemist of the institution, who has this under his control. The delivered milk is utilized at once. The milk for the use of the house and the older children is cooked in copper vessels, then put into clean receptacles and into the icebox, because it is not immediately sent to the hospital. The milk for infants, which is either full milk or a milk mixture, with hot-water or oatmeal gruel, according to the prescription of the physician, is put into bottles and sterilized.

The greatest stress is laid on the absolute cleanliness of the bottles. These are put into hot soda-water, washed with a bent-handled brush, and cleansed of any particles of milk which may have adhered; they are then placed in a specially constructed rinsing machine connected with flowing water, and rinsed with coarse sand, then with clear flowing water, and finally washed again with sterile water. The empty bottles from the infectious wards are first put through a disinfecting process in a large disinfector of the hospital, and are kept in steam for thirty-five minutes at a temperature of 104 C. The bottles are graduated in cubic centimeters and are made after my own model, in sizes of 300, 200 and 100 c.c. After the bottles are filled, a plug of cotton is inserted in each, and after being sterilized in like manner, are sent to the different wards. As the milk is carried in baskets, it is unnecessary to have any other stoppers.

The sterilizing is done after the Soxhlet method in a Henneberg milk-sterilizer, which holds 264 bottles; for extra use there is a reserve apparatus after the Autoclave method, consisting of a large copper cylinder, having steam connection, in which two frames, each containing 32 bottles can be placed. The cylinder can then be made air-tight. The Henneberg sterilizer consists of a forged iron cabinet resting on legs, which has an air-tight door in front. On the inside of the cabinet there are movable grates, as a protection for the bottle-holders. The steam flows into this cabinet by means of a very fine pipe through the bottom, surrounds the milk bottles and replaces the specifically heavy air which is carried out by means of a second pipe in the bottom, into a chimney and out into the open air. The machine is, furthermore, supplied with an air valve for quickly removing the steam after the sterilizing is finished; a safety pipe to prevent too great pressure, and also with a thermometer. The temperature can be raised to 105 C. We sterilize at 100-101 C., and after the temperature reaches 100 C. the milk remains in the sterilizer thirty minutes.

The criticisms which have recently been made against the strict sterilization of milk I can not approve. I have never seen any harm arising from the use of fresh sterilized milk, and I believe that those authors who declare that sterilized milk causes Barlow's disease, really mean that the prolonged use of sterilized milk, procured from public milk-sterilizing laboratories, which frequently have a large stock of sterilized milk remaining on hand for possibly several months before being used, has unquestionably produced Barlow's disease. Even if it be admitted that the sterilization of milk for the feeding of children is combined with disadvantages, one can hardly use any other than sterilized milk in a children's hospital. In young children, with a tendency to intestinal disease, the danger of infection by means of bacteria existing in the milk is very great. We have every reason to be satisfied thus far with the sterilization used in our hospital.

Regarding the dilution of milk and its use in the varying dilutions, I can hardly see how we can do without this for sick children, notwithstanding the fact that French physicians have recently advocated the use of full milk. I am convinced that pure milk does not agree with dyspeptic children in the hospital, and as often as I have tried this, even with small, measured quantities of pure milk to nourish severe cases of dyspepsia, I have been forced to stop on account of the reappearance of vomiting and increase of diarrhea. I therefore can not dispense with the diluting of the milk. Numerous additional substances used in the diluting, such as water, gruel, rice-gruel, barley-gruel, etc., I hold to be absolutely necessary in diarrheal diseases. I see no reason for doing away with our present methods.

Suture in Tiers Without Buried Threads.—The silk thread or silver wire is passed through the deepest tier of tissues for one stitch. The ends are then drawn and held tight with forceps. A piece of No. 3 catgut is then passed around the thread below the forceps and tied in three tight knots. The upper tiers are then sutured together in the same manner, with the ends of the thread emerging from the deep tier and tied around the catgut close to each tier of tissues. Each stitch is thus directly above the one beneath. This method was exhibited by Hagopoff at the International Medical Congress for the first time.

THE RELATIVE VALUE OF HOMATROPIN AS A CYCLOPLEGIC: A CLINICAL STUDY.*

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The question of the value of homatropin as a cycloplegic was brought before the Section last year by Dr. Culver; nevertheless I believe we can profitably discuss it again. On account of the short time required for the effect of homatropin to pass off, it is a cycloplegic much to be desired provided it is effective, and this is a matter in regard to which opinions vary. I am a firm believer in the necessity of using a cycloplegic for measuring the refraction if we desire to do work which will be lasting in its effects and which will reflect credit upon us in its results, though I am aware that there are many men whose opinions carry much weight who seem content with the results obtained by estimating and correcting the dynamic refraction. I take it, however, that we can dispense with any arguments as to why we are interested in the subject of cycloplegics and why we habitually use them. Suffice it to say that most of us are satisfied from clinical experience that they are not only justified, but demanded, and that we do use them for two purposes: 1. To obtain complete rest for the eyes, and thus relieve choroidal congestion and low-grade inflammatory processes in the deep tissues of the eye. 2. For the purpose of accurately measuring the errors of refraction. While we may not agree as to the theoretical indications for the use of a cycloplegic, I believe that when practically confronted by a patient, the majority of us would be of one mind as to whether or not to use such a drug in that particular individual.

Atropin, the best cycloplegic we possess, in the vast majority of cases produces complete cycloplegia, which lasts sufficiently long to give the eye a thorough rest and permits of several examinations on different days. With homatropin, the most fleeting of cycloplegics in its effects, we are usually compelled to be content with one examination, and, as ordinarily used, the rest it affords is so short as to have little or no therapeutic virtue. Various drugs stand between these, viz., scopolamin, hyoscyamin and duboisin, the last two at least being chemical accidents, and may be looked upon as modified atropin. The question with which this paper has to do is: Does homatropin produce a sufficient effect on the ciliary muscle to be a reliable agent, and if so, in what manner and in what dose is it best to use it?

The fact that so many persons can not afford the time necessary for the use of atropin compels the use of a more quickly acting drug. I began using homatropin hydrobromate in solution and tried it in the strength of 8 and 16 grains to the ounce, instilling one drop every five or ten minutes for an hour. I finally settled on a solution of 12 grains to the ounce as giving, as I thought, satisfactory cycloplegia with a minimum of risk of constitutional effects. This solution is irritating, producing conjunctival and ciliary injection, to avoid which I preceded it by a drop of 4 per cent. cocain solution. I used this solution when I could not use atropin, with tolerable satisfaction for about four years, and then I began the use of the discs of homatropin and cocain, prepared after the formula of our colleague, Dr. Casey Wood. Each disc contains 1/50 of a grain each of homatropin and cocain (alkaloids). My method of use is the same as that proposed by Dr. Wood, and is as follows: First, a drop of cocain solution is instilled for its anesthetic effects, as the use of the disc is somewhat painful. Then the patient is directed to look down, and the disc, carried on the end of a cotton-tipped applicator, is placed on the conjunctiva above the cornea, and the eye closed before any winking can occur, which might expel the disc, and the handkerchief is placed over the eye. In the same way, a disc is placed in the other eye and the patient keeps both eyes closed. A second and then a third disc is introduced into each eye at the end of thirty and sixty minutes, respectively, and thirty minutes after the last one is applied the patient is ready for the test. In testing the refraction my reliance is placed chiefly on the test lenses and the shadow test. Many eyes thus treated will be found to present, at the end of ninety minutes, considerable irritation, with both conjunctival and deep ciliary injection. This may be relieved by instilling another drop of cocain solution.

Comparative studies have been made to ascertain the relative efficiency of the different cycloplegics, especially comparing homatropin and atropin. I might refer to those of Wood, Coleman, Starky, Jackson, Oliver and Risley, as indicating that while in many, nay most, cases the efficiency of homatropin has been proved, in a respectable number atropin reveals the more hyperopia, and sometimes more astigmatism and sometimes a change in the axis of the astigmatism.

It may not be amiss to refer to the reasons which Dr. Wood has advanced for using the drug in connection with cocain, in a gelatin disc and in this dose. He believes[1] when homatropin in aqueous solution is dropped into the eye, 90 per cent. of it escapes by the tear passages or over the cheek. When applied in ordinary solution, they dim the cornea while the gelatin is completely absorbed and yields the drug slowly. The addition of cocain increases the absorptive power of the corneal epithelium, and the disc of most useful size will contain only 1/25 of a grain of an alkaloid. Further, the method of keeping the eye closed is a protection to the corneal epithelium from the deleterious effect of cocain. This disturbance of the epithelium is urged as an argument against the use of the combination, by Thorington,[2] but I have searched carefully with oblique illumination and the loupe, and have failed to detect its presence. I would further suggest that closing the eyes prevents expulsion of the disc from the conjunctival sac, and intensifies the cycloplegic action of the drug by removing incentives to the exercise of the accommodation, and by excluding the light.

Aside from the vulnerability of the particular ciliary muscle, the question of the efficacy of homatropin seems to me to depend largely on the methods of its use and the dose. The discs as indicated, furnish a means of applying the homatropin almost continually for ninety minutes. Jackson[3] says that we can not rely on single or hourly instillations—referring to solutions—but must use them at intervals of a few minutes. He uses a solution of 12 grains to the ounce. With many of those who have gone on record as finding homatropin unsatisfactory, we can see the reason in their method of its use. This is certainly true in the case of Holt,[4] who used a 3 per cent. solution nine times in sixteen hours, and hourly for four hours before the examination. Coleman,[3] however, was dissatisfied with the results, after using all sorts of solutions and discs. In looking over Coleman's table, the difference, where difference exists, is in most cases slight compared to the total error, and can not be laid wholly to the door of ineffectual cycloplegia until the personal equation of both tester and tested can be eliminated.

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[1] Trans. Pan-American Medical Congress, 1893.

[2] Refraction and How to Refract.

[3] Trans. American Oph. Soc., 1889.

[4] Ibid.

I will present here in tabular form the results in some cases which I have had the opportunity of examining, first under homatropin, and later under atropin. These observations are clinical, not experimental, and represent cases in which the correction prescribed under homatropin was for some reason unsatisfactory. They are not selected cases, and are, moreover, made on eyes suffering from eye-strain. It would appear that such observations have value, for we use cycloplegics on such eyes in more instances than we do in eyes not so affected, and the object of the study should be to determine the relative value of the cycloplegics on pathologic eyes. The only fact that detracts from the value of the table is that the second examination was made several months after the first, and it is possible that in a few instances a real change in the static refraction may have occurred. The results are those obtained by the test lenses, all the cases being private patients and all tested as carefully as I know how.

Case.	Homatropin and Cocain.	Atropin.	Case.	Homatropin and Cocain.	Atropin.
1	+ .25	+ 50	27	Em.	+ .50
2	Em.	+ 25	28	+ .25	+1.00
3	+ .50	+1 00	29	— .25	— .25
4	Em.	+ .25	30	— .25	— .75
5	+ .50	+ 50	31	— .25	— .25
6	+ .75	+1.00*	32	—1 25	—1 00
7	+ 25	+ 75	33	+1 50	+1.25
8	+ .25	+1 25*	34	+1 75	+1.75
9	+ .75	+1 00	35	+1 50	+1.75
10	+1.50	+1.75	36	+1 75	+2.25
11	+1 00	+1.75	37	+1 50	+1 75
12	+1.50	+2.00	38	+2 00	+2.25
13	+1.50	+1 50	39	+1.50	+2 00
14	+2.00	+2 00	40	+2 00	+2 50
15	+1.50	+2 00	41	+1.00	+1 50
16	+1.25	+2 00	42	+1.50	+2 00
17	Em.	— .50†	43	+3.00	+3.50
18	+ .50	Em.†	44	+3 50	+3.50
19	Em.	Em.	45	+2 50	+2 50
20	+ .50	+ 50	46	+3 50	+3 50
21	—2 00	—1 00	47	+2 75	+3 00
22	+2.00	+4 00	48	+3 50	+3 50
23	—1 00	Em.	49	+ .75	+1 00
24	+1.50	+3 50	50	+ .75	+1.00
25	+ .25	+ .50	51	+ .75	+1 25
26	+ .75	+1.25	52	+ 75	+1.25

* Obstinate case, prolonged atropin.

† One year between tests.

In 52 observations the following results are noticed: Gains for atropin were .25 D. 14 times; .50 D. 14 times; .75 D. 3 times; 1.00 D. 3 times; 2.00 D. 2 times; total 36; average gain .54; results identical 12 times. Homatropin gains were .50 D. 3 times; .25 D. 1 time; average gain for homatropin .44. Average gain for atropin in 52 observations (meridians) .385.

In two of the cases showing a gain for atropin of 1 D., and in the two cases showing a gain of 2 D. the first examination was made with homatropin in solution, the second with atropin about three or four years later. It is hardly fair to compare the two drugs in this way. In addition to these differences, I have noted the following changes in the cylinder[6] axis; 5° once, 15° three times, 30° once, 60° once.

The results shown in the table are not what I thought they would be. Homatropin has been most effective in aiding in the selection of glasses, which have proved satisfactory after glasses prescribed without cycloplegia both by myself and by others have failed to do so. If the four observations to which I alluded be eliminated, we find a variation so slight that it will hardly affect the clinical result. I have noticed that in many cases tested with homatropin the shadow-test will indicate a glass .25 or .50 D. stronger than that which gives the best vision. As regards the cylinder axis I am not prepared to say that this is altogether due to more efficient cycloplegia, as the tests in most of these cases was made on individuals and under circumstances which made accuracy difficult to obtain.

The principal practical objection which I have to homatropin and cocain discs is the pain they cause, this being especially objectionable in children. I have demonstrated to my satisfaction in the same patient the superiority of discs to the solutions, and am not disposed to return to the use of the latter.

I may summarize as follows the conclusions which seem justified:

1. The necessity of cycloplegia in order to *accurately* test the refraction of young people is established, though *satisfactory* fitting can doubtless often be done without it. (Note the distinction between accurate and satisfactory.)
2. Atropin is, all things considered, the most reliable cycloplegic, but a great objection to its use is the length of time consumed.
3. For testing the average case, without much chorioretinal irritation or marked ciliary spasm, homatropin, properly used, is sufficient.
4. The best method is that of the homatropin and cocain discs, made after the formula and used after the method of Dr. Casey Wood.
5. In many cases atropin must be used, to relieve spasm, to procure rest and thus to allay chorioretinal irritation. In these cases the patient can no more justly object to its use than he can to its being used in iritis. In both cases his time and his business interests are secondary to the ultimate attainment of useful vision.

DISCUSSION.

Dr. C. M. Culver, Albany—Ever since studying with Dr. Nettleship, in Moorfield Hospital in 1881, I have considered that what has been said may be taken for granted, that the most complete cycloplegia is obtained by the long-continued use of atropin sulphate; but we must meet conditions that so often present themselves in practice where patients come without any premonition of long-continued treatment and expecting an optical prescription in a relatively short time. In using the atropin sulphate for determining refractive errors, I use it exactly as I do homatropin, that is, by the instillation of a few drops at intervals of five minutes until six instillations have been made, and then waiting until an hour, from the time of the first instillation, has elapsed. The comparisons that I have made show that in no practical way is the atropin sulphate superior. It still seems as if, in actual practice, a 1 to 40 solution of homatropin is that most useful. The transient action is desirable from one view-point and undesirable from another. While for a long time I used the disks, which seemed quite useful, there seemed to result from this use a roughening of the corneal epithelium that detracted from the accuracy of the optical examination and, contrary to the experience of Dr. Ellett, I came back to the solution which, comparatively, seemed to me to be the more effective.

Dr. Casey A. Wood, Chicago—After the discussion of this subject, both this and last year, I am sure I would be taking up your time unnecessarily if I were to repeat what I said on former occasions; but, if you will permit me, I wish to say that I still use the preparations for which I am responsible, and still believe that where we are unable to use atropin some such combination as I have recommended is desirable. It is, however, like a sharp instrument—good when properly employed, and harmful when not properly used. It must be in-

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[5] Annal Oph. and Otol. January, 1893.

[6] The cylinder in each of these cases was a .25 D.

sisted on that when the disks are placed in the eye the latter must be closed, for if the eye be left open for any length of time the anterior epithelium of the cornea becomes dry and may interfere with the subsequent measurement of the refraction. When the lids are closed this loosening of the epithelium by the cocain allows of the rapid absorption of the homatropin, and is the agent that brings about cycloplegia.

Dr. Ellett referred to the use of the disks in children. I have lately discontinued their use for this purpose, chiefly because children's time is not, as a rule, of much importance, and I generally insist on the use of atropin, but when business men and women come to us and say, "I have a half-holiday on Saturday and must get to work on Monday," we have no choice. I believe it is better to use cocain and homatropin than to try to insist on the use of atropin, even though the latter drug may be thought preferable. In my experience I find it wise to tell the patient that if the disks are not satisfactory atropin or scopolamin *must* be used. There is an important fact to be borne in mind when making studies of the comparative value of cycloplegics. If one makes a second examination within a short time, no matter with what cycloplegic, there will often be found a difference in the refraction. I made a number of tests with this result some years ago, using atropin alone and waiting for ten days after the first to make the second examination. Not uncommonly, a greater amount of hypermetropia, or hypermetropic astigmatism, and a smaller amount of myopia, was discovered on the second trial, and the same was found in the case of homatropin and cocain. To arrive at proper conclusions, therefore, I am persuaded that at least a month must elapse between the two examinations.

DR. A. D. MCCONACHIE, Baltimore—While I endorse entirely all that has been said in favor of homatropin, I want to report some unfavorable experiences with it. I reported two cases in the *Philadelphia Medical Journal* a year and a half ago under the title "Two Cases of Homatropin Intoxication or Substitution, Which?" I thought the cases either idiosyncrasy or substitution. Further evidence by experiment and observation proved that the patients had not gotten homatropin. My usual prescription for homatropin is ½ gr. of the salt to ½ dram of distilled water, with directions to put 2 drops in each eye every ten minutes for six instillations; that means twenty-four drops of an 8-gr. to the ounce solution. After I had criticised the pharmacist, an investigation was taken up by our state pharmaceutical association, and I was arraigned for considering it substitution and dealing wrongfully with them. One of our ablest pharmaceutical chemists, however, examined the specimen, which, by the way, bore Merck's label, and found that it was not pure homatropin, but some salt allied to atropin. Merck, when consulted, said that it should only be used in .5 per cent. solution, and that I had used a solution strong enough to be poisonous—yet my solution is but half the strength recommended here. I was vindicated before the society by a pharmacist, however, and they admitted that there was substitution perhaps, not by the druggist, but by accident, and that some other drug had gotten into the bottle.

My object in referring to these cases is to impress the members of the profession of the dangers attending the use of homatropin of uncertain composition.

DR. F. C. HOTZ, Chicago—I think there can be no difference of opinion among us that homatropin, on account of its transient effect, is a valuable remedy. The question narrows itself down to whether homatropin is reliable in refraction work, because the majority of our patients who present themselves for refraction examinations have healthy eyes. I agree with the essayist in so far as I consider homatropin a reliable cycloplegic in the majority of cases. There are cases in which you may fail and have to resort to atropin. I have not made any comparative tests by using homatropin and following that in a few weeks by a second test under atropin, but I have had, in the course of a few years, a number of patients who returned for a second examination, and inasmuch as the first examination was made under homatropin, I decided then to examine them under atropin. I regret I have not had the time to go over my records to select a number of these cases, but as far as I can remember, many of the examinations showed the same results. In regard to the method of applying the remedy, I think to instill it every five minutes is a waste of homatropin. I use a drop of 2 per cent. cocain solution, and five minutes later a second 2 per cent. solution of homatropin. Fifteen minutes later a second application is made, and in 30 or 40 minutes after the first application I find the accommodation practically suspended and the eyes not irritated.

DR. J. L. THOMPSON, Indianapolis—I have had some experience with homatropin ever since it came out. At first I used the salt on the end of a probe, and afterward the disks. I always re-examine my patients whenever I can, about two years after the first test. In the great majority in which I used homatropin I find, under scopolamin or atropin, that I had not gotten out the full degree of the anomaly that existed, but occasionally you find a case where one or two applications of homatropin has been just as effective as atropin. Then, again, I have found that occasionally atropin does not bring out the full degree that exists. Duboisin I find the most reliable of all, and generally it makes the patient sick at the stomach. In about one-half of the cases in which I used homatropin I believe the full amount of correction was not brought out. Scopolamin has suited me a great deal better.

DR. WILLIAM THOMSON, Philadelphia—I think it would be better if each gentleman would explain to us the methods he uses to determine whether he has obtained a full degree of cycloplegia. My method of detecting it is to make an artificial far point by the use of a 3 D. lens, with small type for test.

DR. W. L. PYLE, Philadelphia—I do not think the argument that a subsequent examination under atropin will bring out more defect is valid, for I have often made examinations under homatropin and cocain after a lapse of eighteen months or two years from the tests under homatropin, and even atropin, and found quite as much increase in refractive error as these gentlemen report after using atropin following homatropin.

DR. S. D. RILEY, Philadelphia—I wish simply to urge the importance of using the mydriatics for their therapeutic value, even in correcting errors of refraction. Some one, in this discussion, made the remark that the majority of refraction cases coming to him presented healthy eyes. I must say this is not in accord with my own experience. A large number of my patients have fluffy choroids, headaches, etc. I feel sure that no rapid method will meet satisfactorily the requirements in these cases. The time limit is an important one, and if we use homatropin it should be for many days, until the hyperemia of the fundus has disappeared and the attending asthenopia symptoms have subsided. Until this is accomplished no certain correction can be made.

Neither subjective nor objective methods suffice to determine accurately the static refraction of such eyes when in a state of health. I prefer in these cases to use the more vigorous mydriatics, and the one I prefer above all others is the hyoscyamin sulphate, for it holds the accommodation in its grip more firmly than atropin and it subsides many days sooner—provided you get hyoscyamin. It is difficult to secure a trustworthy preparation, because in its manufacture too great heat or excess of alkali converts it into atropin. The only way to differentiate between them is by polarization. A chemist can not tell which is which in the laboratory, for they are isometric.

The strong mydriatics, if kept in a sufficient length of time, i. e., until the irritation subsides, permit the accurate and easy correction of any existing error of refraction to be made, but this can not, in my judgment, be done until that point is secured. I therefore insist upon the use of a mydriatic for its therapeutic value as well as its cycloplegic effects.

DR. E. C. ELLETT—In regard to Dr. McConachie's experience with poisoning by homatropin, I have noticed it twice in using solutions, but not at all in using the disks. These two patients were young ladies of the same age, and resembled each other strongly in appearance. About the irritation of homatropin, which Dr. Hotz thinks he avoids by preceding it with cocain, I have seen the same irritation produced by the disks, and relieved by cocain.

As regards determining when we have cyclop [illegible] I have used the same method Dr. Thomson [illegible] use a + 4 D. lens and then test with J. [illegible] to give a very short range of vision, and if there is any latitude at all I conclude that cycloplegia is not sufficient. I think where we wait for a year or more and then retest our cases an increase in the strength of the glasses may be indicated from the fact that the patient has worn glasses for that long, and that there has been a small amount of hypermetropia concealed by ciliary muscle tone or action that could not be overcome by the cycloplegic. I fully agree with what Dr. Risley has said with regard to the use of mydriatics in these cases of deep irritation. I said in the paper that one of the uses of these drugs is to procure rest, and mydriatics are as much indicated in certain cases of eye-strain as in iritis, and can not be replaced by any other substance.

SOME FACTS ABOUT APPENDICITIS. MEDICAL AND SURGICAL.*

J. H. CARSTENS, M.D.,
DETROIT, MICH.

Experienced surgeons make the statement that if they should have 100 consecutive cases of appendicitis and should operate on all of them as soon as the diagnosis was made, they could show a better list of perfect recoveries and a smaller death-rate than if 100 similar cases were treated on the expectant plan and those only operated on which were finally selected by conservative practitioners. I agree with the above statement, but not with the assertion of the ultra-conservative members of the profession when they say that the radical surgeons insist that every patient should be operated on immediately. I never heard a surgeon say so. Surgeons say that it would be better if every case could be operated on, but every careful surgeon selects the time and method of operation in each case. And each case varies. Even if we say that every case ought to be operated on, that does not mean that we recklessly rush in and operate without due consideration of the condition of the patient, the environment and the necessary treatment. We are called to consult in a case in which the patient has been ill for several days, and on our arrival at the house we find a decided change for the better has taken place. We see that the turning-point has been reached and that the patient is going to recover. Does any one operate under such circumstances? I know of none. We say that when the acute symptoms subside, and if the patient has had similar attacks before, we can operate in a few weeks. If, however, we see the patient during a first mild attack, then we suggest that the patient wait, since we know that about 15 per cent. never have a recurrence. But should there be another attack, we advise an operation. Many advocate waiting until firm adhesions have taken place. This has never seemed right to me. It can be justified only when one expects to get one of those very large, appendicular abscesses containing a pint or more of pus, with the sloughed-off appendix floating in it. Such cases simply require an opening of the abscess and drainage; but before one case reaches that stage fifty cases, at least, would end in death.

Furthermore, if the adhesions are firm—which is very good in "let-alone" cases, but a very troublesome condition when you have to break up the adhesions and remove the appendix—you are liable to strip up the peritoneal covering of the intestines.

Another idea which seems to me very objectionable, is that waiting in such cases is a good thing. "Wait until the power of resistance of the individual has been developed." When has it reached its acme? There is a limit to nature's power of resistance and I think this power as a rule is greatest in every case, when the disease has existed the shortest length of time. This brings us to a consideration of phagocytosis and leucocytosis—the power of resisting and eliminating microbe infection. As the infection becomes greater, nature offers more barriers to the onslaught, but a limit is reached in these cases also, and nobody can make me believe that a person who has been subject to a septic condition for five days is a better case for operation than one who has been subject to septic infection for two days, neither can any one make me believe that ten, fifteen or twenty days after the microbic infection, when all the reserve powers of the system have been exhausted, is a better time to operate on the patient than in the first twenty-four or forty-eight hours. It is so unreasonable, so opposed to all ordinary laws of health and to common sense that I have always rejected the idea.

There is a class of cases in which the surroundings are not conducive to aseptic surgery. We sometimes hear in medical societies, or even read in medical journals, of wonderful operations, performed in the little hovel or flat, where whole families were cooking, sleeping, eating and living in one room. We hear of these most wonderful recoveries under the most adverse circumstances, but we never hear of the thousands of deaths following operations under similar conditions. In those cases in which the environment and the after-care are bad, it seems to me that the surgeon ought to trust more to nature than to surgical skill, which will be nullified by the ignorance of the nurses in whose charge he leaves the patient.

Accurate statistics, furnished by surgeons, show one side of the question, but it is very difficult to get statistics of cases—recoveries and results—from general practitioners. It is almost impossible for the general practitioner to keep statistics if he wants to. When he attempts to write out his records, he is disturbed and must rush away, and so it goes on every day. He is tired out at night and can not sit down and write for an hour or two. But occasionally, a person can take pains in one particular branch. I would like to see a hundred general practitioners keep accurate records of appendicitis, say for a year or two, and then report them. They ought to have the age of the patient, the number of attacks, the line of treatment pursued, and the final results. Then we might come to some conclusion on the medical side of the question.

The kind of microbes, it seems to me, has little to do with the severity. We know in all cases the bacillus coli communis is found, which gives us cases with low temperature, and very deceiving cases on that account, as they are jogged along by the general practitioner for a week or ten days when suddenly leakage takes place into the peritoneal cavity and when the surgeon arrives the patient is beyond help. Cases with mixed infection of bacillus coli communis and staphylococcus pyogenes aureus have a very high temperature and rapid pulse. These are cases that frighten the general practitioner and induce him to call in a surgeon in time. I have also found cases where the appendix had not ruptured and the peritoneal fluid contained staphylococcus albus only, but with the most severe symptoms. How they get there I do not know. We also find bacillus or diplococcus fetidus and many other kinds, so that all around it seems to me that the variety of bacteria or germs has little to do with the severity of the case or the danger to the patient.

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* Read before the Allen County Medical Society, Fort Wayne, March 20, 1899.

Sometimes an appendix is removed, especially during the interval, which does not seem to be diseased macroscopically; the patient, nevertheless, gives a clear account of having had repeated attacks. If, however, a microscopic examination be made, you will find that the appendix is ulcerated, strictured, etc., and what is better proof, the patient becomes well afterward. Repeated attacks in the same individual vary very much. The first attack may be very light or severe, the second or third may be light or severe, or either of them severe. We can never tell. Many patients are what I call chronic invalids, simply from repeated attacks of appendicitis and the resulting sequelæ.

I think there is no medical treatment that is specific. I think ice or hot applications, or painting with iodin or anything else, are of little value. I do not believe in opium, and still, if the patient is in pain an occasional dose is indicated. Starving the patient, as has been suggested by Ochsner, is certainly efficacious, but does not cure the case; they will have recurrences and require operations.

The diagnosis is generally easy, if the physicians will only look for appendicitis, although the first day the symptoms may point to the stomach on account of the vomiting, or to the bowels on account of the constipation or diarrhea, but after that the well-marked pain in the region of the appendix and the rigidity of the muscles over that part is so clear that a mistake is seldom made. I have operated on cases where I found a malignant growth or a perforation of the bowels, but the mistake was not serious, as this kind of cases equally requires surgical intervention. Morris and Richardson have recorded a large number of cases that show a mistake is made in 3 or 4 per cent. I am perfectly satisfied that I do not make a mistake any oftener and I think every general practitioner in the course of his practice is a splendid diagnostician if he does not make more than this.

The tumor develops as the result of plastic exudate, which walls in the appendix. The appendix becomes attached to the side or the back of the pelvis and finally ruptures, still being well walled in. It sometimes ulcerates through the peritoneum at the side or the back, and the pus works its way upward toward the crest of the ilium, or behind it below the kidney, where it breaks or is opened. These are exceptional cases, patients with the peculiar power of the peritoneum to throw out fibrous exudate, layer over layer, and prevent the rupture into the peritoneal cavity. In fact, the whole question of medical treatment, it seems to me, depends on the health of the individual, especially on his power to throw out the plastic exudate of the peritoneum, and I think that our surgical success depends on the same power. If we operate carefully, restrict contamination of intestines and peritoneum to a minimum, remove the pus, and put in a drain, in a few hours the cavity or the opening we have made is surrounded by plastic lymph and well walled in, and our patient recovers. If, however, the patient's peritoneal secretion is thin and does not coagulate, the bacterial infection is spread all over the peritoneum and we have general septic peritonitis.

I looked over the death record of the city of Detroit for 1899 and I found that 37 cases are put down as having died from appendicitis. There are 54 put down as dying from peritonitis, and though some of the latter cases may be due to pelvic diseases, I am sure that more than half are due to appendicitis, treated with poultices and opium, and finally disposed of with a pious exclamation, "The Lord's will be done."

The death records of these 37 patients were signed by 19 different physicians, and I thought by inquiring from them I might be able to arrive at some kind of conclusion. I received answers from 12, who reported on 25 deaths. Fourteen of these cases had been subjected to operation and eleven others died without any operative interference. As the members of the medical profession who had signed these certificates had been able to properly diagnosticate the cases, and were first-class men in good standing, I thought I might also get further information from them and asked them to give me the number of cases they had had during the year, and how many died with or without an operation. I received reports of 213 cases of appendicitis. Of these, 160 were operated on during the acute attack or during the interval, in fact, at any time when the surgeon thought it was proper. Of these 160 cases, 14 died. This list of surgical cases includes naturally the reports of the principal surgeons and gives a death-rate of about 8 per cent., counting everything—easy interval cases, severe cases, purulent peritonitis, and those actually moribund. The number of cases not operated on, that is, medically treated, were 57, with 11 deaths, giving a mortality of over 20 per cent. From the reports of the physicians in nearly every case, the operation had been urged, but refused by the parents of the patient, or by the patient himself.

I do not want to place these figures forward as positive proof of the result of one line of treatment over the other, because the number is limited. Still, taking them up at random from men who know how to diagnosticate appendicitis, they certainly must be very near the truth. We certainly can not accept the figures of those who do not know what appendicitis is, never diagnose it, and never have a death from it. We must take our statistics from men who are able and progressive and who keep a record of the number of cases; so many were operated on; so many were not operated on; so many died following an operation; so many died without an operation." These statistics from such men must certainly be very near the truth. I would like to have a larger list, but as stated above, one can not expect general practitioners to keep the statistics of all kinds of diseases.

This proves that cases of appendicitis die under medical treatment. This is often denied. I have here the proofs. If I should hunt up all the cases which were put down as peritonitis in the death record, and get the report of them, I feel quite sure that I would increase the above-given record of death of medically treated cases of appendicitis 50 per cent., if not 100 per cent. The general average given by nearly all surgeons is that at least 15 per cent. of appendicitis cases die; 15 per cent. never have a recurrence after the first attack, and about 60 per cent. have recurrences and die off, one by one, at the rate of 15 per cent., unless relieved of their appendices. In conclusion I desire to make the following points:

1. It ought to be a general rule that every case of appendicitis should be operated on as soon as the diagnosis is made, but when it is the first attack and very mild, or no proper facilities are at hand either to perform the operation or to take care of the patient afterward, it is often good policy to wait and watch the case.

2. In cases of second or subsequent attacks, however, the patient should be sent to a hospital, even though it is at quite a distance—unless good facilities can be had at home—and an operation promptly perf

3. Statistics of cases operated on as they

good, bad and indifferent, by experienced surgeons, give a mortality of only 8 per cent.

4. Statistics collected by general practitioners who are able and up to date, and who advocate surgical interference, show that medically treated cases have a death-rate of at least 15 to 20 per cent.; that at least 60 per cent have recurrences; while the cases operated on are absolutely cured.

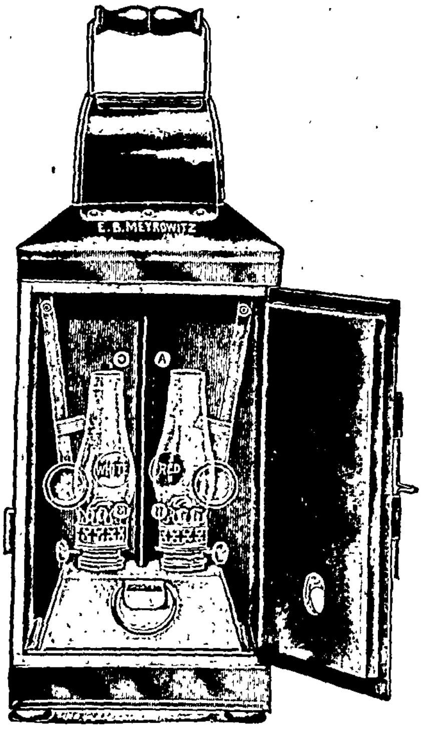
IMPROVED LANTERN FOR TESTING COLOR PERCEPTION.*

CHARLES H. WILLIAMS, M.D.
BOSTON.

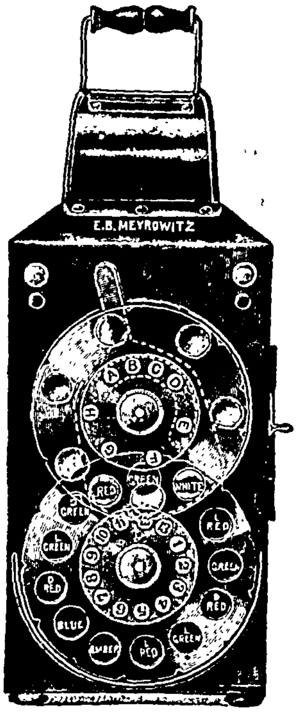
This lantern is an improved form of the one I showed at the meeting of this Section last year. It puts in more practical form the principle which has for many years been carried out on the railroads of Holland, where a color-test both by worsted and a lantern, of more complicated construction, is required. The lamp is arranged with two burners, and in the front of the lantern are two openings so that two colors can be shown at one time, as red and green, two reds, or two greens of different shades, a red and white, etc. In this way a comparison of signal colors can be had, as is often the case in service; or, by moving a diaphragm one light can be cut off, and only one color at a time is then seen. There are thirteen colored glasses, and variations of intensity of color are arranged by a difference in the shades of the colored glasses and by combining them with smoked glasses placed in another disk. Also, the size of the colored area can be varied by a diaphragm moving between the disks.

The lantern is square in shape, about a foot high and six inches on each face. On its front are two revolving disks. The lower carries thirteen glasses, five reds and five greens of different shades, including a red glass that with the spectroscope is seen to transmit a certain amount of green light in addition to the red, and a green glass that transmits a certain amount of red in addition to the green, although not enough in either case to interfere with the general color of the red or green glass when seen by a normal eye. Such glass is often found in signal lanterns, and if a person is defective in his color perception for red and green there is more chance of his mistaking the color of such signals than when the glass transmits light of a purer shade. In addition to reds and greens, this disk carries one yellow, one blue and one colorless glass. The upper disk has several empty spaces and three different shades of smoked glass, and any of these can be combined with any of the glasses of the lower disk to give a variation in the intensity of color. Between the disks is a movable diaphragm arranged so that colored areas of three different sizes can be shown, or so that one light can be completely cut off.

Inside the lantern are two movable pieces of ground glass, which can be put in the path of the light or withdrawn, and the combination of these ground glasses gives very much the same effect as is produced by fog and smoke on the appearance of the colored signal lights. The darker smoked glass should not be used with the smallest opening of the diaphragm, for it will reduce the light too much, but with the larger openings any of the glasses may be used. With each colored glass is an illuminated number, and with each smoked glass a letter, illuminated by the lamp of the lantern, so that the examiner can see it, but screened from the person being examined. In this way it is easy to keep a record of the color shown in every case, together with the name given to it by the person tested. This lantern test is easy to make either by day or night, a darkened room



being used by day. These colors do not fade. They resemble very closely the colors and appearance of signals in actual use; and will detect small defects of color perception in the central portion of the retina that may be entirely overlooked by the worsted test.



During the past year I have had four cases who passed the Holmgren test without difficulty but who made so many mistakes with the reds and greens of the lantern as to show that they were unable to distinguish correctly the true colors of signal lights seen at the usual distances. One of these cases who had been twice examined with the colored worsteds and passed as having satisfactory color perception made the following mistakes with the lantern: No. 2 (green) he called red; No. 4 (green) he called red; No. 5 (red) he called yellow; No. 8 (red) he called green; No. 9 (green) he called red; No. 10 (green) he called red; No. 12 (green) he called red; and No. 13 (white) he called red. On testing him in my office he made some of the characteristic mistakes with the colored worsteds, but his former examiner had passed him, and I do not think this mistake would have been made if the lantern test had been used in addition to the worsteds.

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*Presented to the Section on Ophthalmology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

The lantern gives some information that we do not get with the worsted test, especially in regard to small defects in the central portion of the retina, in regard to the recognition of signal colors when affected by fog or smoke, and in regard to the ability to give correctly the proper name to the color shown. On the other hand, the test with the colored worsteds, in which the colors are selected by comparison with certain test colors, as proposed by Professor Holmgren, and which when properly made is a true test by comparison of colors in which no names are used, gives some information that the lantern does not give. Both tests should be used in order to get satisfactory results and make sure that all the dangerous cases of defective color perception have been discovered.

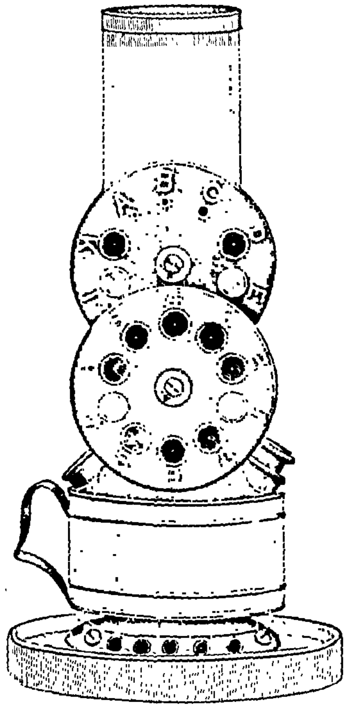
IMPROVED METHOD OF TESTING COLOR PERCEPTION.*

WILLIAM THOMSON, M.D.
PHILADELPHIA.

Dr. Williams' remarks leave but little to be said in favor of the use of a lantern for examination of the color sense. In the system in use of the Pennsylvania Railroad the lantern of Donders has been advised for the testing by the ophthalmic expert, but I am now convinced that a test of this kind should be used in conjunction with the colored wool stick by all the examiners who act under the direction of the division superintendent. Two-fifths of the time of a railway employee's life is spent in governing his action by colored lights by night. The lantern furnishes the test. It also gives us the means of detection of central scotomata, or the color defects caused by central amblyopia induced by tobacco and alcohol. It consists of a small kerosene lamp, or spring candle-stick on which can be placed an asbestos chimney seven inches in height. This can also be placed over an argand burner or an electric light. Two disks of metal are attached so that they can be partly superimposed. Each disk has ten openings, the upper marked by letters from A to K, the lower by the figures from 1 to 10. They are too small to be distinguished at the proper distance. The lower disk has its openings, 10 mm. in diameter, filled by the four colored glasses used on the roads, viz., white, red, green, and blue. This is for the examination in chief, the upper for the cross examination. The upper disk has four openings, from 1 to 10 mm., which can be brought over the lower glasses to diminish their size. The other openings have dark London-smoked and ground glass to indicate the effect of storm, snow, rain, or fog. G, H, and I are efforts at imitation of confusion colors, and are called and seen as white by the color-blind. They are light smoke, pink, and blue-green to the normal eye. The last is K, a cobalt transmitting both red and blue light, both evident to the perfect eye, but appearing as blue only to the color-blind. The yellow color of the kerosene flame prevents the blue from being well seen in the pink and blue-green openings, which therefore appear white to the color-blind. The examination is made in a dark room, the man being placed 5 meters away. As the examiner turns the disk, the man is directed to call out the colors presented. Any mistakes are at once detected and if it be required can be recorded on proper blanks by using the figures or letters employed.

The degree of color defect can be determined by the use of the openings from A to D. A man with full color sense should perceive the colors when the smallest openings, 1 mm., are used. If he fails, the larger ones are used, and if at 5 mm. he fails to see the light through 10 mm. opening he is much under standard, having only 1/10; by placing him at 1 meter he may again fail and show a defect of 1/50.

No man should pass who would call the red signal, green or white; the green one, red or white; or the white one, red or green. The man should also be asked to tell what the lights indicate as signals, the white, safety; green, caution; red, danger, halt; the blue, the inspection light, indicates that a car should not be moved showing a blue light.



To enable the officers of the road, the examiners or others, to appreciate partly the defect of color-blindness the chimney may be placed over an alcohol lamp having mixed with the alcohol a quantity of common salt. The colors are then all destroyed for those having normal sight. The illumination of the color stick, or of other colored wools in a dark room by this yellow light apparently destroys the colors, and closely imitates the defect of the color-blind. With the addition of this convenient lantern to the color stick the so-called Pennsylvania Road System[1] may be regarded as more complete. It has been in use for twenty years on that road, and has been adopted by other corporations estimated to control in all 150,000 miles of track.

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*Presented to the Section on Ophthalmology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

[1] Published in full in the 6th edition, Nettlesh the Eye.

and other instruments mentioned in the P. R. R. system can be obtained from Queen & Co., Philadelphia, accompanied by certificates of their accuracy signed by Dr. Thomson.

CUTANEOUS MANIFESTATIONS IN DIABETES MELLITUS.*

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BROOKLYN, N. Y

In company with its direct analogue, histological as well as in some degree functional, the skin suffers many insults from the glycosuric state, subjectively, and often bears decided objective symptoms resulting therefrom.

It never should be forgotten, though it often is, to what large degree vicarious elimination of morbid and effete matter is carried on by the skin, in its natural effort to relieve other organs in the human economy, more particularly the larger splanchnic glands, as for example the liver and kidneys, as evidenced in those cases by icterus, uridrosis, etc.

In fact, the integument must really be recognized, taken in its totality, as the largest eliminating organ of the body, which perhaps is only another way of putting the aphorism of Æsop, "that there is nothing like leather."

Skin symptoms are frequently the first to call our attention to the presence of the morbid condition which is being considered in its various aspects by this Association, and which from its most noteworthy and constant index, presence of sugar in urine, we call glycosuria.

To enumerate all the subjective and objective phenomena which this morbid condition may produce in and on the skin would almost seem like having to give a list of the ordinary diseases thereof, certainly of all the so-called primary lesions. I shall content myself with commenting on a few of the more usual, and easily recognized—though not always so by the general practitioner—and one or two of the rarer manifestations. This list may be made out in the order of relative frequency, as follows:

1. Xeroderma, or a condition of dry skin.
2. Pruritus, without any, or at least any noteworthy, objective lesions, the genital regions in both sexes apparently suffering most.
3. Eczemas, partly neurotic, at other times catarrhal, having as chief seats the genitals, and flexures of the body and limbs.
4. Furunculosis, often general in character, but sometimes regional. This is often the case with the very common occurrence of its analogue—carbuncle. The seat of preference seems to be the extensor aspects of the body, as nucha, gluteal region, etc.
5. Conditions of erysipelatous manifestations and gangrene; late symptoms as a rule will not be considered here, as they belong chiefly to the domain of general surgery.
6. Xanthoma diabeticorum, a disease accompanied by formation of xanthomatous new-growths, often in immense quantities, and more particularly over extensor surface of body and limbs.
7. Possibly, the recently recognized and not much investigated "blastomycetic dermatitis," in which tumors looking like verrucous lupus, or the so-called "tuberculosis verrucosa cutis," become fungoid in character, and on microscopical examination are found to be filled with the fungi of saccharine fermentation. There have been very few cases of this last disease noted or described, not, I think, over twelve in all. I have lately been in communication with its closest and earliest observers—Drs. Hyde and Montgomery, of Chicago—and have begged them to take its possible connection with the glycosuric state into consideration, which has hitherto been but imperfectly done; they have considered it a good suggestion. It would seem to me, from the nature of the cryptogamic parasite present, to be an interesting point for consideration.
8. Dermatitis herpetiformis—Duhring's disease.

In considering the few points given above in something like sequence, I would say that the dry skin of glycosurics is capable of a simple explanation. The parched lips, the dry throat, the dry condition of the mucous membrane, from excessive excretion of water by the kidneys, are their own explanation. This condition should always excite suspicion in the medical mind. As to their relief as far as practicable, the means are obvious, viz., local treatment, and appropriate diet and medication.

The second in order, pruritus, is always suspicious, and the urine should be carefully studied, not only that of the morning, the so-called "urina sanguinis," but that obtained after a full, rich evening meal. Sometimes the latter shows considerable sugar, when that of the morning does not. A list of palliative and curative remedies is altogether too long to be treated of here. Naturally, always the chief objective point is to relieve the diathetic condition.

Eczemas that occur so frequently, especially in the sites mentioned, may be dismissed briefly. Often the fermentation parasitic element, as well as its congener, the trichophyton, can be detected around the genitals. Lotions mildly parasitic in character usually seem to act better, and are cleanlier than salves in these conditions.

Furuncles and carbuncular states need appropriate treatment. I need not give any specific recommendations; the recognition of the cause and the attention as needed to the local condition are generally plain. I will, however, say here that in conjunction with local treatment mild dosage with arsenic and the use of Startin's old tonic are of manifest and great advantage.

I shall not consider the purely surgical questions of erysipelas and gangrene, as the gentlemen preceding me have done it so fully. I would say, however, that the only cases I have ever seen of erysipelas of the fauces and upper air-passages occurred in diabetics.

The sixth condition, that of "xanthoma diabeticorum," is now a well-recognized and striking disease of the skin, and I may be pardoned perhaps for a few moments in its description, as I very lately have had a very striking example of this condition, in the person of a woman aged about 40. [Photographs were exhibited.] It will be seen that she is covered with an immense number of papular, tubercular, and nodular tumors over extensor surfaces and limbs. These in the natural light appear of a yellow—xanthomatous—color and almost exactly resemble the tumors one sees around the eyelids, especially in the upper lid around and near the internal canthus.

This woman has now suffered nearly six years with this affection, always constantly present, but decreasing somewhat in summer, and every year becoming relatively worse. The disease in question has now been recognized for about fifteen years, first, I believe, by Malcolm Morris, of London. There are only about thirty-five cases reported in dermatological literature, of which two are my own. In all these cases glycosuria, generally of a pronounced character, was found. In the case above referred to, over 10 per cent. of sugar was present. In fourteen days of anti-diabetic diet alone she improved at least 30 per cent. in general condition. The case was treated last winter. In about two months, under that regimen and a little medication, the tumors had entirely disappeared, not even a macular pigmentation being left. The sugar decreased *pari passu* with improvement of her condition, and now, as I see her about every fortnight, I find the sugar reaction is very slight. Objectively, as well as subjectively, to all intents she is a well woman. I presume, however, indiscretion in diet, or laxity in treatment, would allow the disease to return.

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*Read at the Sixteenth Annual Meeting of the Fifth District Branch of the New York State Medical Association, held in Brooklyn, May 22, 1900.

DIABETES MELLITUS IN CHILDREN.*

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One who proceeds to investigate this subject will be at once surprised at the little that has been written on it. A large portion of the works on diseases of children say nothing at all about this disease, while others treat of it in a few lines. It is undoubtedly a rare affection in children, yet it does occur, and certain phenomena in connection with the disease should lead us to be on the lookout for it. Gerhardt has recorded 111 cases at various ages from 11 months to 16 years. In the last volume of Keating, 1895, a case was reported in which grape sugar was found in the liquor amnii of a diabetic pregnant woman. Unfortunately the infant was deadborn; but Roosa meet with a similar case in which the infant lived long enough to have the urine analyzed. In this case the examination of the urine of the baby gave a negative result, although the mother's urine and the liquor amnii showed the presence of glucose.

I report two cases which I have seen during the past year in consultation. The first one was seen with Dr. Charles Jackson, of New York, last October. The patient, a boy of 4½ years, had always been delicate, but had never had any special disease. He was taken to see the Dewey parade, and was perhaps unduly exposed and fatigued. Following this he seemed to be out of condition, and to have a slight fever. A physician was called in, who diagnosed malaria, and the child was accordingly put on quinin, but did not improve. Dr. Jackson was then called in, and found no cause for the failing health until he examined the urine and discovered that it was loaded with sugar. The child passed from 105 to 110 ounces of urine daily. I was called in consultation on October 10, Dr. Jackson having first seen the case on October 6. I examined the case very carefully, and could find absolutely nothing in any of the organs to account for the atrophy of the child. There was no evidence of tuberculosis. I gave a very bad prognosis. The child died three days later. There had been no other symptoms except loss of appetite and interest, and emaciation. The course of the disease was apparently about three weeks.

The other case I saw in consultation with Dr. McPhee, of Harlem. This occurred in a boy of 6 years, and the duration of the disease was between three and four weeks. On examination, I could find no cause for the rapid atrophy evidently taking place. The only feature of the physical examination was hydrocele of the right tunica vaginalis. When I saw the child he was in a state of semi-stupor; it could hardly be called coma. A few days later Dr. McPhee sent me word that the child had lived four days after the consultation. The coma had diminished following a free sweating and relaxation of the bowel; then it had gradually deepened until the end. In both of these cases the urine contained approximately 5 per cent. of sugar. The sugar continued to be present in about the same quantity up to the last. The respirations rose to 56, and the temperature to 101.2 F., while the pulse ranged between 110 and 140 during the last few hours of life. The only nervous manifestation was a peculiar reaching movement of the hands. The pupils responded to light. His emaciation was so rapid that it could be distinctly noted in the four hours elapsing between the visits of the attending physician.

In my experience, I have met with only a very few cases of diabetes mellitus. I believe we can sum up our knowledge of this disease very briefly. First, I would call attention to its exceeding rarity. I have the urine examined of all the children in the babies' wards of the New York Post-Graduate Hospital, and also in the Willard Parker Hospital, and of the Riverside Hospital; yet it is exceedingly rare to find any sugar in the urine. The next point that I should make is that the disease is exceedingly fatal in young children. Why this is so, I am at a loss to explain. In both of the children referred to there was no evidence of assimilative disturbance, and the children had been in a state of good nutrition.

In looking up the literature I found one case which was reported to have recovered. In the light of our present knowledge of this disease, and particularly what we have just heard about testing for glucose in the urine, I should doubt if in this case the diagnosis was correct.

The third point I should make is that this disease in children is accompanied by exceedingly rapid emaciation. A few weeks ago a little girl of 10 years was sent to me, a diagnosis of diabetes mellitus having been made. The mother stated that three or four specimens of the urine had shown sugar. A specimen was sent to me, and I failed to find sugar by Nylander's test. I found the child to be fairly well nourished, and during the four or five weeks that the glycosuria was said to have lasted she had not failed materially. I therefore felt justified in stating that the child was not suffering from diabetes mellitus. Subsequent examinations have failed to show any glycosuria. I believe whenever a child is brought to the physician with a rapid atrophy he should examine the urine for sugar. I wish to emphasize the statement that this is one of the diseases of childhood which produces rapid atrophy.

Vacancies in Medical Corps of Navy.—A naval medical board of examiners for examination of candidates for admission to the medical corps of the navy is now in session at the Naval Laboratory, Brooklyn, N. Y., and will remain in session for several months. There are now seventeen vacancies in the list of assistant-surgeons. Congress at its last session passed a law taking assistant-surgeons out of the steerage and making them ward-room officers as soon as they entered the service, giving them the rank of junior lieutenants and the pay of assistant-surgeons in the army. Candidates must be between the ages of 21 and 30. Circular of information can be obtained on application to the surgeon-general of the navy, navy department.

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INFLUENCE OF SEA-AIR AND SEA-WATER BATHS ON DISEASE.*

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The purest air in nature is that found on the high sea after traversing hundreds and thousands of miles of pure sea-water, uncontaminated by smoke, dust, and the exhalations of cities. Saline mists and fogs clarify, purify, ozonize, and vitalize the air. Sea-air is tempered by its surroundings; in summer it is cooled by radiation from the lower water-temperature and in winter warmed by the higher water-temperature. Moisture is also taken up by it and a doubtful infinitesimal per cent. of salt. The so-called trace of iodin is very questionable and can not be positively demonstrated. Sea-air is classed as an alterative by some, but not on account of its supposed iodin.

Outside of an island in mid-ocean, Atlantic City is probably situated in the best location for pure sea-air; better than any point on the eastern coast of the United States. Its geographical location is on an island of pure sand, five miles from the mainland, and twenty miles seaward of the head of tide-water; at a point of a bend in the coast line, thirty miles northeast from Cape May and seventy miles from New York bay, where the fresh waters mingle with the ocean. It is surrounded by a body of salt water, uncontaminated by fresh water streams, and entirely free from malarial or any other paludal poisons. The salt meadows between the island and the shore are overflowed by tide-water twice in twenty-four hours. The gulf stream is about 125 miles from the shore and tempers the surrounding sea-water and the air so that in winter it is from 10 to 20 degrees warmer and in summer from 10 to 20 degrees cooler than interior cities. High winds are less frequent than at other points. Sea-air mixed with sea-fog is not injurious to most cases, as it contains no noxious elements, is non-irritant, and quite equable in temperature. The two great effects of sea-air are upon the nervous system and digestion.

Coming from the dense air of cities and the rare air of high altitudes, respiration and heart action are slowed, at once reducing the consuming energy of the body and lessening waste. Sea air is dense and ozone-laden and, therefore, it increases the oxidizing power of the blood and is Nature's best remedy for anemia. It assists in fighting the malarial parasite, and will, in time, eliminate the poison from the system. Malarious subjects come to the shore and often overload the stomach, overheat themselves, sit in the cold, indulge in promiscuous sea-bathing, thus bringing on acute paroxysms, and then blame Atlantic City. If care be exercised, the usual chill may often be avoided. Night air here is not injurious to these cases. Patients with heart disease do well here, as less work is thrown on that organ and oxidation is carried on better than in higher altitudes. Cardiac dropsy sometimes improves for this reason.

Convalescents from disease and those who have been debilitated, over-worked, and confined to rooms and offices, invariably improve, if they live hygienically, and follow proper dietetic rules. The effects of sea-air are stimulant at first, and add vigor and tone. Appetite is increased decidedly and a drowsy feeling is almost sure to follow its satisfaction with a refreshing night's sleep. Many business men come to Atlantic City periodically to get a full night's rest and sleep. Strumous and tubercular children and adults will improve rapidly if they live in the sea-air and follow proper dietetic rules. Many such cases have been apparently cured here with little medicine. Tuberculosis in its early stages is amenable to treatment in sea-air and sunlight. Such cases should invariably act under physicians' advice. Consumption in its later stages is best at home, as it will not improve here. Many cases of bronchitis are permanently cured by sea-air. There is less danger of pulmonary hemorrhage in sea-air at sea-level than in high altitudes, owing to the 15 pounds pressure to the square inch here and the density of the air; in higher altitudes the internal blood-pressure is not so readily equalized at first and often gives rise to hemorrhage. Many cases of asthma and emphysema do well here, while others are made worse. Trial only can demonstrate. Hay-fever almost invariably disappears in sea-air, but when the wind comes from the land it may be aggravated.

It is a mistaken idea to think that one can not catch cold at the seashore, but one coming here with an acute cold will throw it off more rapidly than in the interior. Some people cure their colds by sailing every day and living on the board walk. Hot and close rooms are to be avoided at the seashore, as they are productive of colds and depression. Laryngitis and acute catarrhal troubles do well at the shore if properly managed; but do poorly, if smoking, late hours, and carousing are encouraged. Acute lobar pneumonia is rarely seen in Atlantic City, and when it is it usually runs a very mild course. Cases of Bright's disease and diabetics in the early stages do well. Contrary to the writings of some, many cases of eczema and skin troubles improve perceptibly and are cured in sea-air. This is particularly noticeable in young strumous children. Digestive troubles are very amenable to treatment if proper rules are followed.

Neurasthenics do particularly well in Atlantic City in the fall, winter, and spring months, but not in July and August, when the large crowds are here, unless they go to parts of the island that are isolated. Insomnia soon leaves and nerve tone rapidly improves. Melancholia and insanity are usually aggravated by sea-air. Hysteria may or may not be improved, acording to the cause. Neurasthenics may find the first few nights here unpleasant and restless, but these soon give way to sound sleep. These cases should be closely watched to prevent abuse of surf, hot, and cold sea-water baths.

Sea-water is a physical and chemical mixture and varies in the quantity of constituents in various localities. Its strength is affected by admixture with fresh water; the depth from which it is taken; the air, temperature, and ocean currents. Chemists say that it contains about 3.5 per cent. solids and 96.5 per cent. of water. The main solid constituents are sodium chlorid (2.7 per cent.), magnesium chlorid (0.3 per cent), magnesium sulphate (0. 2 per cent.), calcium sulphate, calcium carbonate, potassium chlorid, magnesium bromid, traces of carbon dioxid, iodin, etc. One chemist figures 3½ grains of bromin in 100 pounds of sea water. Salt baths are necessarily medicated baths and must be taken under limitations by the sick and well.

No form of sea-water baths is so generally used and abused as the surf bath. It combines the effects of cold and violent exercise. On entering a cold bath there is a shock, with contraction of the skin and muscles, pallor, quickened respiration and heart action, slight depression, shivering, and reduction of temperature. This lasts for a few seconds or minutes, when a reaction sets in. Respiration slows; the heart acts less vigorously; a general glow comes to the skin, and a sense of invigoration or stimulation follows. If continued beyond this point, depression again follows with weakened heart action, blueness of skin and lips, shivering and chilling, and a feeling of prostration and drowsiness. If still persisted in, coma, syncope, throbbing headache, apoplexy in the aged, congestion of the internal organs, subnormal temperature, or death from general depression will follow. All these symptoms are intensified in the presence of exercise and in moving sea-water. It is well known that moving water will abstract much more heat than still water.

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Wave force and pressure varies with the depth of the water, direction of the wind, ebb and flow of tide, and the pressure of breakers. Exercise beyond the breakers where the waves regularly follow each other is not so violent. A slight jumping or rising motion is sufficient to float over the wave without much shock; but if one stands and receives its full impact the shock is terrific. This soon produces physical strain and soreness. Floating and swimming beyond the breakers is quite invigorating. Most force is expended by bathing in the breaking waves (breakers), and it is practically a series of blows that soon exhaust. Many prefer the washing effects of the broken wave and return flow to be obtained by lying just to the shore side of the breakers. This is the least exhausting form and best suited to children.

Many do not experience a reaction after entering the ocean and come out of the water with so much depression that days and sometimes weeks are required to recover. Such subjects should never take surf baths nor even cold tub baths. The proper time to leave the surf or cold bath is during the height of exhilaration or reaction, which comes on in from three to fifteen minutes in the strongest subjects. Leave the bath and immediately go to the bathroom and rub briskly with a coarse towel and then rest. Many lose the real benefit of the bath by exercising too freely afterward. Daily bathing is usually too depressing to the average person; every other day is best. If stimulants are necessary to bring about reaction it is harmful and should be avoided. It is my custom to begin, in many cases, with tepid or cool baths in the tub or pool and gradually accustom the patient to cold before permitting a surf bath. The temperature of sea-water at Atlantic City varies from 65 to 75 or 80 F. in summer, and from 45 to 60 in winter.

It is unwise for any one to enter the surf bath before his morning meal and never until three hours have elapsed after eating. Cold baths retard digestion. Never come from the water and go directly to meals until reaction has been thoroughly established. Great excitement of any kind is a contrary indication to entering the water; also immediately after exercising freely, or indulging in intoxicating drinks, as alcoholics prevent healthy reaction. Patients with bad varicosities are liable to rupture them in the surf. Children under three years and real old persons should never bathe in the surf or cold bath, as their resisting and reacting power is too low. Never force young children into the ocean, as it is productive of harm. Other contraindications to surf bathing are advanced heart disease, atheroma, bronchitis, menstruation, advanced Bright's disease, pregnancy after third month, rheumatism, acute gout and acute diseases.

Mild forms of neurasthenia, insomnia, anemia, indigestion, and debility by too close confinement are most benefited by surf or cold sea-water baths. Tepid and cool salt baths are best for convalescents, those whose reaction is very poor, and young children. Sea-water baths act upon metabolism much more than fresh water. Tissue oxidation is increased and elimination much improved. Weight at first decreases but later increases.

Warm salt baths at 85 to 97 F. are used to encourage slight perspiration, relax the skin, reduce internal congestions, and carry off a part of the body poisons through the skin. These baths should always be taken in a warm room and never prolonged over ten minutes. They should be followed by a good rub with alcohol or cocoanut-oil and a rest of at least one hour. Many prefer this bath at bedtime to induce sleep. Some aged neurasthenics and those with low resistive power do best with these baths. My policy is to give the salt bath only every other day. When continued too long there is headache, flushed and throbbing temples, great prostration, languor, and rapid elevation of temperature, and body oxidation is reduced. Warm baths are used in all cases where relaxation of the sudorific glands is required, and in reduction of many forms of pain. The hot sea-water bath is rarely of much use except in uremia and to produce profuse perspiration. The practice of so many people taking warm and hot sea-water baths indiscriminately is productive of much more work for the physician and harm to themselves. Untrained attendants will always put your patients into baths that are too hot and keep them there too long. It is always wise to lay down explicit rules for each case and enforce them. Never tell a patient to take warm or hot sea-water baths and then trust to his knowing how to take them.

THE IDENTIFICATION OF DEXTROSE IN HUMAN URINE.[*]

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Dextrose, in insignificant traces a constituent of almost every normal urine, can be readily demonstrated in the renal excretion, provided it occurs in sufficient amounts. The moment, however, that urinary grape-sugar is detected by the more commonly employed methods, it indicates a deviation from the normal systemic state. Thus, in glycosuria, no specific pathologic element makes its appearance, but a regular constituent of excessively increased quantity. While, as a rule, glucose can be positively identified in urines containing 0.5 per cent. or more of it, great difficulty in this respect is often experienced when smaller amounts are present.

Glycosuria, a well-defined condition, resulting from or concurring with some systemic anomaly, is most always recognized by the painstaking physician; yet, certain systemic occurrences—physiologic or pathologic—may be erroneously diagnosed as glycosuria, when, as a matter of fact, grape-sugar in appreciable quantities was never discharged by the urine. Coinciding with pseudo-glycosuria, there may be other symptoms apparently pathognomonic of the diabetic state; thus, I know of a number of instances where individuals underwent treatment for diabetes without ever having been subject to this affection.

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[*] Read at the Sixteenth A[illegible] fth Branch of the New York State [illegible] lyn, May 22. 1900.

Glycosuria is frequently noticed first by the medical examiner of a life insurance company, and there is no reason to doubt the correctness of the diagnosis in the great majority of instances; however, many spurious cases, which came under my observation, were originally interpreted as glycosuria by life insurance examiners.

This pseudo-glycosuria, or diabetes, which has absolutely nothing in common with the true condition, debars the applicant from obtaining any life insurance.

In the *Medical News* of June 4, 1898, under the title of "The Life-Insurance Company and Its Encroachment upon Personal Rights," I referred to the following instance: "A colleague, aged 45 years, of good physique, good family history and good habits, applied for life insurance in one of our companies. He was rejected on account of diabetes. Numerous examinations of his urine did not reveal to me any glucose, nor does his general condition warrant the assumption of a glycosuric or diabetic state. The applicant himself was, and still is, in the habit of examining his urine from time to time, and as yet has never detected any grape-sugar or any other abnormal constituent. The inefficient examiner was evidently mistaken and negligent. Possibly his Fehling's solution had deteriorated; possibly the few pieces of chemical apparatus used were not previously thoroughly cleaned. No matter what caused the apparent copper reduction, it was this official's duty to apply at least one control test to ascertain the presence of glucose. Had he done so the rejection of the applicant on account of diabetes could not have occurred. I have selected this case from a number of others which I have in mind, as it occurred recently, and as the applicant is a well-informed, conscientious and trustworthy physician."

I repeat, that in the case just alluded to, not a single abnormal urinary constituent was present, that transitory glycosuria, as experimentally proved, had to be excluded, and that the reduction of the copper solution was due to either its deterioration, or to unclean apparatus, or to inexperience of the examiner, or to any two or all of these possibilities together.

Gross negligence, to say the least, is often exercised when testing for dextrose in the urine. I distinctly recall three cases designated as "diabetes" by life-insurance examiners, where the reduction of copper in alkaline solution was caused by tartronyl-cyanamid in excess. Had the analysts performed one or two control tests, such an error would never have occurred. Some instances of apparent glycosuria were in reality such of creatininuria. The application of the Weyl-Salkowski test for creatinin left no doubt as to the true reducing factor.[1]

A case of supposed diabetes referred to me for treatment in 1895 turned out to be one of urobilinuria. Urobilin, which was present in greatly increased amounts, imparted to the urine reducing qualities; hence, Trommer's test, when applied by the family physician, gave apparently positive results. A few control tests divulged the non-presence of glucose, and urobilin in rather abnormal quantity was detected by two very simple processes.[2]

Another case of assumed diabetes which I encountered proved to be one of intestinal hyper-putrefaction, with accompanying indicanuria. Evidently the family physician who rendered the original diagnosis was only acquainted with the bismuth tests for the detection of dextrose, for urine rich in indican possesses the property of reducing the bismuth salt. It was an easy matter to disprove the occurrence of glycosuria, and to point out indoxyl-potassium sulphate as the reducing substance.[3]

Alkaptonuria, so-called, is of comparatively infrequent occurrence; however, when it is first recognized in an applicant for insurance or in a patient, it is most always mistaken for glycosuria. The reducing effect of the alkaptonic acids upon alkalin copper solutions is similar to that of dextrose.

These acids, however, do not undergo fermentation, and do not reduce bismuth subnitrate like glucose, although they may cause a precipitation of a brownish substance; alkapton does not reduce picric acid in the presence of a free alkalin hydrate, and does not respond to the phenyl-hydrazin and polariscopic tests for dextrose. Exposed to the air, its solution resumes a much darker tint. A young man, aged 19, in 1894, was rejected by one of the large New York life insurance companies on account of what they pronounced "diabetes." The applicant's medical adviser, who felt satisfied as to the presence of glycosuria and some of its apparent concomitant manifestations, instituted a rigid antidiabetic diet and prescribed a preparation of opium. The supposed glycosuria was not diminished at the end of four or five months' treatment, and the patient, finding himself growing gradually weaker, called in some other practitioners, who were of unanimous opinion as to the nature of the affection. A consultant of great prominence, not questioning at all the correctness of the diagnosis made by the other physician, finally advised a prolonged sojourn at Carlsbad. An analysis of the patient's urine made soon after his arrival at Carlsbad revealed the presence of 2.5 per cent. of glucose. Uranalysis, performed by the same chemist, just before the patient's departure from that town, demonstrated 0.5 per cent. grape-sugar only.

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[1] Weyl-Salkowski test for creatinin. Reagents. 1. Ten per cent. solution of sodium nitroprussiate; 2. Ten per cent. solution of sodium hydrate: 3. Acetic acid.

Detection: If to a specimen of urine containing creatinin a few drops of the freshly prepared sodium nitroprussiate solution and some of the sodium hydroxid in solution are added, a transitory ruby discoloration of the urine, soon turning into yellow, is produced. Addition of acetic acid and subjection to heat when the yellow color is obtained imparts to the mixture at first a greenish and then a bluish tint. Finally, a precipitate of Berlin blue is thrown down. The reaction will occur only if the mixture has been heated.

[2] *a.* Detection of urobilin: Reagents—Ammonium hydroxid and solution of chlorid of zinc. The urine, rendered alkaline by the addition of ammonia, is separated by filtration from the phosphatic deposit. To the filtrate, a few drops of a chlorid of zinc solution are added. The occurrence of a green fluorescence denotes the presence of excessive amounts of urobilin. The mixture, on spectroscopic examination, shows the characteristic absorption band on the intersection of green and blue, between Fraunhofer's lines *b* and *F*.

b. Reagents—Chloroform, alcoholic solution of chlorid of zinc, and absolute alcohol. Detection: The urine and a few c.c. of chloroform contained in a test-tube, are repeatedly, but gently, shaken together. After separation of the chloroform, one drop of an alcoholic solution of chlorid of zinc is added to it. If urobilin is present in appreciable amounts, a rose-red discoloration with green fluorescence will ensue. In case the mixture has become turbid, it will clarify on the addition of absolute alcohol. (E. Wirsing: Verhandlungen der Würzburger phys. med. Gesellsch. N. F., xxvi, No. 3).

[3] Jaffé's test for indoxyl—potassium-sulphate. Reagents—Hydrochloric acid; concentrated, freshly prepared solution of chlorid of calcium, and chloroform or ether. To 10 c.c. of the albumin-free urine in a test-tube, add an equal volume of concentrated hydrochloric acid and heat. Next add, drop by drop, of a concentrated, freshly prepared solution of chlorid of calcium until the maximum blue tint is reached. Following this the mixture is well shaken with 2-4 c.c. of chloroform (ether, Salkowski). The chloroform-extract of indican, on standing, settles on the bottom of the test-tube, and the depth of its color may serve as an approximate indicator of the amount of indoxylpotassium sulphate contained in the urine.

After an examination of the young man's urine made by me I stoutly contended that its copper-reducing constituent was not dextrose, but one of the alkaptonic acids. Numerous analyses of the same urine, which I subsequently performed, confirmed my original assumption in every instance.[4] I have examined the urine in question prior to the gentleman's departure for Europe and also soon after his return, and I assert that he never excreted any urinary glucose before he left nor ever after he came back. The inferences to be drawn from this instance are obvious, and this case drastically illustrates the methods in vogue at certain continental watering-places.

Negligence, above all, is responsible for the errors in diagnosis in the instances heretofore cited. Such mistakes are never made by conscientious and painstaking examiners, for, if they do not feel themselves competent to definitely diagnose a given case, they invite efficient assistance, and thus untold anxiety and many an unjust rejection may be averted. A patient is free to change his physician when he has found him incompetent, but this advantage is denied him when he is an applicant for life insurance, for, in this case, the medical examiner is virtually an autocrat, whose opinion—"Roma locuta, causa finita"—leaving the benefit of the doubt always to the company employing him, is decisive. In many instances the life-insurance examiner is not chosen for his ability and reliability in matters medical. On the other hand, even if all necessary precautions are taken, it is not always an easy task to positively identify grape-sugar occurring in small, but still, pathologic, amounts. This is due to the limited resources for chemic research at the disposal of the general practitioner and his lack of special training for more exact analytic work.

The delicacy of a test for glucose is dependent upon the character of the latter's solution, hence, a test for dextrose, in point of sensitiveness, responds differently if applied to a watery solution than if used with the urinary fluid. Furthermore, the delicacy of a glucose test is not the same in all urines, being dependent on quality and quantity of the other urinary constituents. Sensitiveness of a method for the detection of glucose in the urine is by no means identical with its accuracy and reliability. Thus, Trommer's test, for instance, is an exceedingly delicate one, if skilfully applied to certain urines; in the great majority of instances, however, its trustworthiness can not be relied upon for amounts of dextrose less than 0.5 per cent. The same may be said of the other testing methods in general usage. Böttger's or Johnson's picric acid or the fermentation tests are equally delicate under favorable conditions, but, according to my experience, their employment should be restricted to urines containing 0.5 per cent. and more of grape-sugar.

By the application of tests most generally used, pathologic quantities of urinary glucose may be overlooked altogether, or grape-sugar may be confounded with a number of other urinary constituents. Especially is this the case where the other concomitant manifestations are equally ill-pronounced. I have prepared the following list to show the limit of sensitiveness and that of reliability of the different tests:

Tests for Dextrose in the Urine.	Limit of Sensitiveness. Percentage.	Limit of Reliability. Percentage.
BISMUTH TESTS.		
Böttger's	0.1	0.5
Nylander's	0.1	0.3
Brücke's	0.2	0.4
Maschke's	0.2	0.4
COPPER TESTS.		
Trommer's	0.1	0.5
Salkowski's	0.5	0.5
Seegen's (filtration of urine through animal charcoal)	0.01	0.05
Fehling's	0.3	0.3
Worm-Mueller's	0.25	0.3
Haines'	0.2	0.3
Elliott's	0.2	0.3
Pavy's	0.2	0.3
Phenylhydrazin test	0.03	0.05
Moore-Heller's	0.5	0.75
Penzoldt-Rubner's (ammonia-lead acetate)	0.1	0.2
Methylene-blue test	0.04	0.3
Picric-acid test	0.1	0.5
Sodium sulpho-indigotin	0.1	0.5
Hoppe-Seyler's (Nitrophenylpropiolic acid)	0.5	0.75
Penzoldt's (Paradiazobenzolsulphonic acid)	0.1	0.3
Furfurol tests	0.02	?
Horsley-Pratesi's (caustic potash, potassic silicate, potassic bichromate)	0.4	0.75
Fermentation test	0.1	0.5
Polarization	0.01 with best instrument.	1.0 and over by instruments in gener'l use.

In the following I have recounted those disturbing factors which impair the value and mar the lucidness of the different processes commonly employed for the detection of dextrose in the urine:

THE BISMUTH TESTS.

1. Böttger's Process.—This test depends on the reduction of bismuth subnitrate in an alkaline fluid to black metallic bismuth in the presence of sugar.

Disturbing factors and sources of error.—Excessive amounts of pigment, glycuronic acid, mucin and other urinary constituents containing sulphur by the production of bismuth sulphid, which in appearance is similar to bismuth reduced by sugar. (If but traces of sulphur are present, a reddish-brown sediment is produced.) The grayish tint often imparted to the bismuthic salt is by no means indicative of the occurrence of minute amounts of urinary dextrose.

Prevention.—The coloring matter should be separated by filtration through animal charcoal. Most proteid substances are removed by boiling of the acid urine, by acidifying and boiling of neutral or alkaline urine. The coagulate is allowed to settle and the test is performed with the clear urine.

2. Brücke's Method.—The separation of albumin—a possible source of error—Brücke accomplished by the aid of Fron's reagent, an acidulated solution of bismuth—potassium iodid—[5] which, by supplying bismuth oxid, serves at the same time as a detector of urinary glucose. A precipitate of bismuth-iodid is produced in the diluted solution. This sedimentation would, consequently, also occur on the addition of the reagent to the unacidulated urine. As, however, an excess of acid would redissolve the albumin-precipitate called forth

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[4] Detection of the alkaptonic acids: 1. Reagent—Chlorid of iron. Chlorid of iron added to a solution of homogentisinic acid produces a transitory blue discoloration; added to a solution of uroleucinic acid, the ensuing discoloration is green. 2. Millon's reagent—In unheated alkaptonic acid solutions, Millon's reagent slowly produces a yellow precipitate, gradually turning to orange; the color of the precipitate, on being heated, readily changes to light terra-cotta red. Other tests for the presence of these acids or the methods for their preparation are too complicated for execution by practitioners of medicine. The darker color, when exposed to the air, the negative results obtained with the bismuth, the picric acid and the fermentation tests, the optic inactivity and the heretofore-mentioned tests, suffice for the recognition of alkaptonuria and for its discrimination from glycosuria. However, the definite identification of the acids is possible only by their preparation from the urine.

[5] Preparation of reagent: One and one-half grams freshly-precipitated bismuth subnitrate is heated with 20 grams distilled water to the boiling-point: 7 grams potassium iodid are afterward dissolved in the mixture, which then assumes a red coloration. The whole is finely acidulated with 1.5 **grams** hydrogen chlorid.

by the bismuth, it is essential to ascertain what quantity of hydrogen chlorid has to be added.

The following process is, therefore, recommended: Two test-tubes are filled to the same height, the one with water and the other with the urine to be examined. Sufficient hydrogen chlorid is added to the water contained in the one tube so that a drop of the reagent does no longer produce turbidity. In this manner the amount of HCl necessary to keep the bismuth-iodid in a known volume of the reagent still in solution, is learned. The urine is then acidulated with the quantity thus ascertained, following this the reagent is added, and when precipitation seems complete the whole is filtered. To the filtrate, which should show no turbidity, on the addition of HCl or the reagent, an excess of potassium or sodium hydroxid is added and the mixture treated as in Böttger's test. Bismuth-potassium iodid produces also precipitation of the albumoses (pepton), which does not take place when the common process of albumin coagulation is employed.

Disturbing factors and sources of error.—Glycuronic acid ($C_6H_{10}O_7$) and glycuronic anhydrid ($C_6H_8O_6$), in my experience, invariably impaired the end reaction. An excess of certain pigmentary bodies, especially uro-erythrin, produce a grayish to black deposit of earthy phosphates in urine, rendered alkaline by potassium or sodium hydroxid.

Prevention.—Glycuron and glycuronic acid and its combinations can not be readily separated by means at the command of the medical practitioner. All he can do is to resort to a number of control tests. The coloring matters may be partially eliminated by above-mentioned methods.

3. Maschke's Method.—In this process a solution of sodium tungstate in acetic acid[6] is employed for the separation of the protein substances in the following manner: The addition of the reagent to one-fourth or one-third volume of the urine in a test-tube, causes precipitation of the albuminous material. The urine is then filtered and again treated with some drops of the reagent. If no new precipitate appears in the filtrate, half the latter's volume of concentrated sodium hydroxid and a small amount of bismuth subnitrate—about 0.05 gram—are added and well shaken together. In case the bismuthic salt undergoes a brownish or blackish discoloration before the mixture is subjected to heat, then sulphur combined as hydrogen sulphid is contained in the urine. The removal of the latter is accomplished by agitating a new sample of the urine with acetic acid and bismuth nitrate, the filtrate being afterward treated with sodium tungstate as above. Glucose is only then present when on the application of heat immediate blackening of the bismuthic salt ensues. A brownish hue of the bismuth oxid appearing on heating, or a black discoloration of the precipitate on boiling, for a more protracted period, indicates the occurrence of normal amounts of sugar.

Disturbing factors and sources of error.—Urinary pigments, glycuronic anhydrid, glycuronic acid and its combinations, hydrogen sulphid. Almost every normal urine blackens bismuth oxid when the amount of potassium or sodium hydroxid utilized is far in excess. The reducing substance, however, is not sugar.

4. Nylander's Test.—Almén's[7] solution is the reagent employed in this method. One part of the reagent is added to ten parts of the suspected urine. On boiling for from two to five minutes the white precipitate which is produced by the addition of the test solution to the urine, gradually assumes a more pronounced discoloration, turning finally black in the presence of dextrose. A very small percentage of sugar produces a brown hue of the precipitate; a dirty yellow or a grayish discoloration is of no significance as to the presence of dextrose. A secondary blackening of the precipitate, which may take place when the urine mixture in the test-tube is cooled off, does not evince the occurrence of abnormal quantities of grape sugar. Uric acid and creatinin do not reduce the bismuth salt. Pure peptone does also not influence the reaction. The test boils over easily; this may be prevented by putting the test-tube into boiling water.[8]

Disturbing factors and sources of error.—Pigmentary bodies, principally uro-erythrin, hematoporphyrin, indoxyl-glycuronic acid and other glycuronic-acid compounds, ammonium carbonate in decomposing urines, hydrogen sulphid, mucin, albumin and other urinary constituents into whose composition sulphur enters. If the reagent is added to a 0.6 per cent. albumin solution, a red precipitate will be produced; in urine containing 1 to 2 per cent. of albumin the ensuing precipitate is black, and in appearance easily mistaken with the reduced bismuth salt. The reaction is yet a fair one if 0.2 per cent. albumin occur together with 0.1 per cent. sugar; it is but faint if 0.35 per cent. albumin occurs simultaneously with the same quantity of sugar; if the reaction will not take place, 0.45 per cent. albumin is contained in a 0.1 per cent. sugar solution. Saccharin is among the substances preventing the reduction. Reduction of bismuth oxid has been noticed after the administration of a number of drugs, as antipyrin, acetanilid, arsenic, salicylic acid or salicylates, quinin, sulphur, mercurials, salts of iodin, turpentin, kairin, rheum, senna, santonin, tannic acid, chloral hydrate, tincture of eucalyptus, salol, benzol, sulfonal, trional, sodium benzoate, large doses of creosote (Stern), podophyllotoxin (Stern). There is little doubt, in my opinion, that the administration of some of these drugs is followed by an increased output of urinary pigmentary substances to which the reducing qualities have to be ascribed. In other instances, as with rheum and senna, the reducing power seems to lodge with the newly-ingested chrysophanic acid ($C_{15}H_{10}O_4$).

Prevention.—Separation of the coloring matters, removal of the hydrogen sulphid by agitation with lead oxid, elimination of proteids. Specimen of urine should be voided in a period during which no medicinal agents were administered.

THE COPPER TESTS.

The various copper tests so extensively employed in clinical work depend upon the power of dextrose to reduce cupric oxid to a lower degree of oxidation in strongly alkaline solutions.

Trommer's Test.—The filtered urine is rendered alkaline by the addition of one-third its bulk of sodium and potassium hydrate. Then, drop by drop, a 5 to 10 per cent. solution of copper sulphate is added under constant agitation until the blue precipitate of cupric hydroxid—$Cu(OH)_2$—which appeared upon the addition of the first drop of the copper sulphate solution, does not dissolve any longer. After this the mixture is slowly heated, but never to the boiling-point. If sugar is present, the dark-blue color disappears, and a yellow or red precipitate of cuprous oxid (CU_2O) is rapidly produced while in the course of heating.

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[6] Preparation of reagent: Crystalized sodium tungstate, 30 parts; acetic acid—30 per cent.—75 parts; distilled water, 120 parts.

[7] Preparation of reagent: Potassium and sodium tartrate, 4 grams, and basic bismuth nitrate, 2 grams, are, under heat, dissolved in 100 grams of an 8 per cent. solution of sodium hydrate. When cooled the yellow bismuth oxid is filtered off and the solution, which does not deteriorate for a long time, is kept in a dark bottle.

[8] The reduction or pseudo-reduction of the bismuth salt may be frequently due to substances other than dextrose. The chief value of this test, however, lies in its negative result, for the non-reduction of the bismuth positively excludes the presence of glucose in abnormal quantities.

Notes.—If either sugar, albumin, ammonia, tartaric acid or glycerine is contained in the urine to be examined, the precipitate of cupric hydroxid is redissolved and the fluid turns dark blue. If, on the other hand, the precipitate does not dissolve at all when the test-tube is strongly shaken, it may be concluded that abnormal quantities of dextrose do not occur in the urine. Should the blue mixture on being heated change its color to yellow without the production of a cuprous oxid precipitate, or should the latter appear only while the mixture is *boiling,* or when it has *cooled off,* it is dubious whether the reaction was caused by grape-sugar or not. It is solely the rapidly-occurring reduction of the copper salt taking place before the boiling-point is reached which is of significance as to the presence of glucose. An eventual deposit, on cooling, consists of flocculent earthy phosphates. Prolonged boiling may call forth a black discoloration of the mixture by the separation of copper oxid and metallic copper. As normal urine also possesses decolorizing qualities, and as the amount of urine necessary to perform Trommer's test is a comparatively large one, reduction of the copper salt may readily ensue by the action of urinary constituents other than dextrose.

Disturbing factors and sources of error.—There are two classes of urinary substances which interfere more or less with Trommer's and other copper tests. 1. Such bodies, besides glucose, which cause copper reduction. 2. Such elements, which, when present in increased amounts, will prevent the reduction. To the first category belong uric acid, the urates, creatin, creatinin, hypoxanthin, allantoin, hippuric acid, indican, alkaptonic acids, nucleo-albumin, urinary pigments, glycuronic acid, brenzacatechin, hydrochinone, lactose and other carbohydrates. The urine possesses copper-reducing qualities after administration of alkaloids, arsenic, tannin, gallic acid, pyrogallol, camphor, copaiba, cubebs, chrysophanic acid, salicylic acid and salicylates, oxalic acid, chloral hydrate, acetphenetidin, turpentin, glycerin, sulfonal, thallin and benzoic and carbolic acids. These urinary constituents and drugs, however, call forth but an incomplete reduction, viz.: Discoloration of the fluid without production of precipitate, or formation of precipitate on boiling only or when cooled off. Among the substances which when present in increasing amounts prevent or retard the reduction, we find albumin, parapepton, peptone, salts of ammonia, saccharin. Urine rich in ammonia—after the decomposition of carbamid into ammonia carbonate—may keep the cuprous oxid in solution. Such a urine may become decolorized, but it may retain its transparency on boiling. Albumin prevents the separation of cuprous oxid, but mere traces of albuminous substances do not interfere with the test.

Prevention.—For the purpose of eliminating these disturbing factors a number of suggestions and modifications have been advanced. Dilution of the urine with water has been recommended to neutralize the influences of reducing agents other than glucose. The diluent, however, must not be added in such excessive quantities as to prevent the copper reduction by the grape-sugar itself. Sr. Johnson believes that all reducing substances, with the single exception of dextrose, may be separated from the urine in the form of mercuric oxid combinations. The process recommended is this: To the suspected urine 0.05 its volume of cold saturated solution of sodium acetate and 0.25 its bulk of cold saturated corrosive mercuric chlorid solution are added. Forty-eight hours after, the precipitate containing uric acid and creatinin is filtered off. If by the careful addition of ammonia the excess of mercuric oxid is removed from the filtrate, glucose in normal urine can not be detected any longer. However, if the mercury is separated from the filtrate with aid of hydrosulphuric acid (H_2S) and the latter is removed by boiling, the fluid is said to reduce more perfectly than it did in its original composition.

(To be continued.)

MEASUREMENTS OF CHICAGO SCHOOL CHILDREN.*

(Concluded from p. 623.)

W. S. CHRISTOPHER, M.D.

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Professor Diseases of Children, Chicago Policlinic; Chairman
Child Study Committee, Chicago Board of Education.
CHICAGO.

RELATION OF INTELLECTUAL AND PHYSICAL CONDITIONS.

As a result of his examination of 33,500 school children in St. Louis, in 1892, Dr. W. Townsend Porter concluded that there is a physical basis of precocity; that dull children are lighter, and precocious children heavier than the average child; that mediocrity of mind is associated with mediocrity of physique. At the outset of my observations I determined to reinvestigate Porter's proposition, and have to say that such facts as we have been able to collect go to confirm it.

There were met, in the course of these examinations, 503 children, aged 12, who were distributed throughout the grades from the second to the eighth, inclusive. A few were also found in the high schools. The physical peculiarities of these children, in each of the points examined is set forth graphically in the following charts. In these figures the averages of each particular measurement of the children of this age in each grade are taken, in the belief that with the small numbers, averages are closer to the truth than means.

Fig. 29 represents the average height of all of the 12-year-old children in each of the grades. It will be noted that the curve representing these averages rises with striking regularity from the second to the seventh grade. A slight decline is noticed in the eighth grade, probably due to the small number of children found in that grade. The grading of the pupils is upon an intellectual basis, hence the chart shows superior intellectual capacity is associated with superior stature, and inferior intellectual capacity with inferior stature, the age being the same throughout.

Figs. 30 to 33, inclusive are constructed in a manner similar to that employed in drawing Fig. 29, except that each is based on a different physical measurement, as indicated on the figure. In constructing these, the 12-year-old children alone have been charted, for the double reason that a single line is more illustrative, and because children of this age are more widely distributed through the grades. The other ages have been examined sufficiently to show that the laws here illustrated hold good for them. The close correspondence between the curves of height, weight, strength of g [illegible] vi capacity is very striking. The slight va [illegible] ergographic curve should not be consi examination of a larger number of pupils determines whether or not it is accidental.

My observations, therefore, so far as they go, support Porter's conclusion: *that superior mental and physical qualifications are generally associated, and inferior mental and physical qualifications are likewise generally associated.*

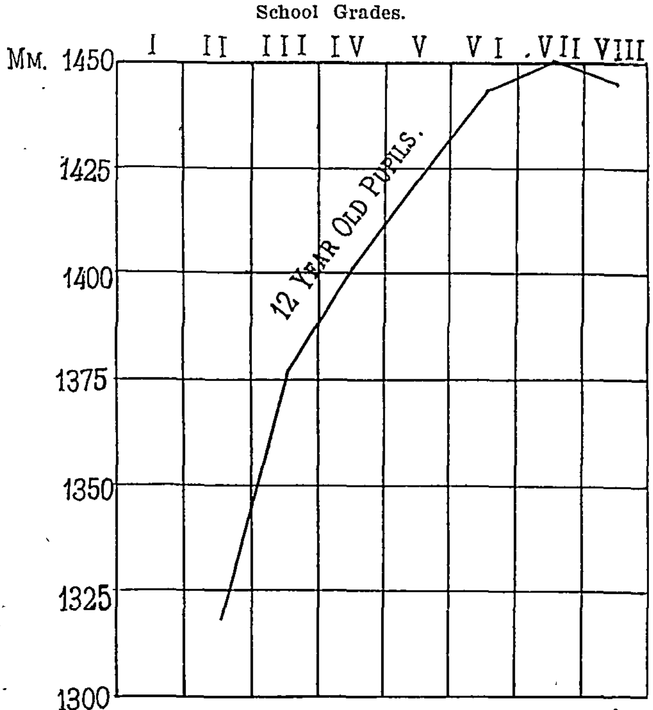


Fig. 29.—Height and School Standing.

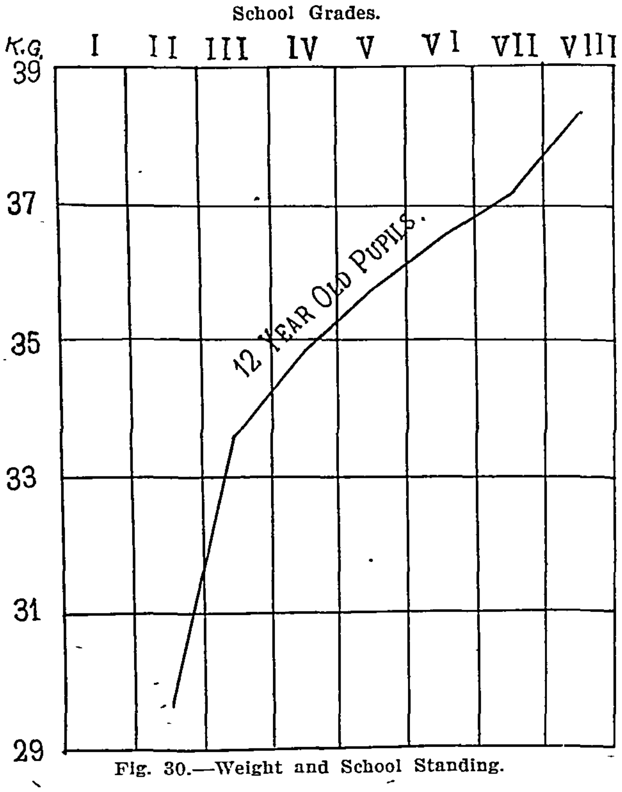


Fig. 30.—Weight and School Standing.

PHYSICAL EXTREMES IN EACH ROOM.

Figs. 34 to 38 illustrate the extreme maximum and minimum measurements met with in each of the twenty-four rooms at the Alcott school. From Fig. 34 it appears that the difference in height between the tallest pupil in the first grade and the shortest pupil in the eighth grade is very slight, being, in fact, only 18 mm., or less than three-quarters of an inch. The greatest range of stature is found in one of the fifth-grade rooms, and amounts to 530 millimeters, or 21 inches. *These facts I have used in the Board of Education as an argument for the use of adjustable desks.* The chart of extremes in weight shown in Fig. 35, as might be expected, is more irregular than that of extremes in height, since obesity and slenderness are nutritional manifestations dependent on several other factors than *those concerned in the determination of stature.*

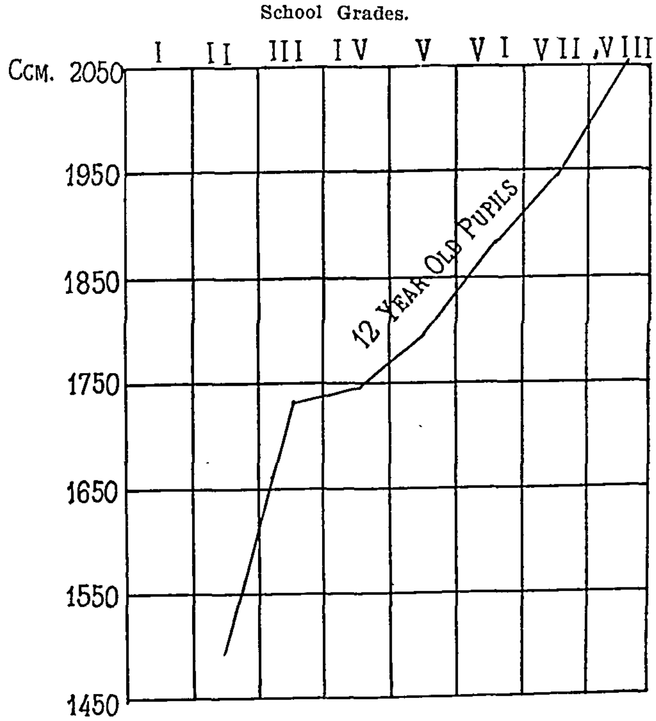


Fig. 31.—Vital Capacity and School Standing.

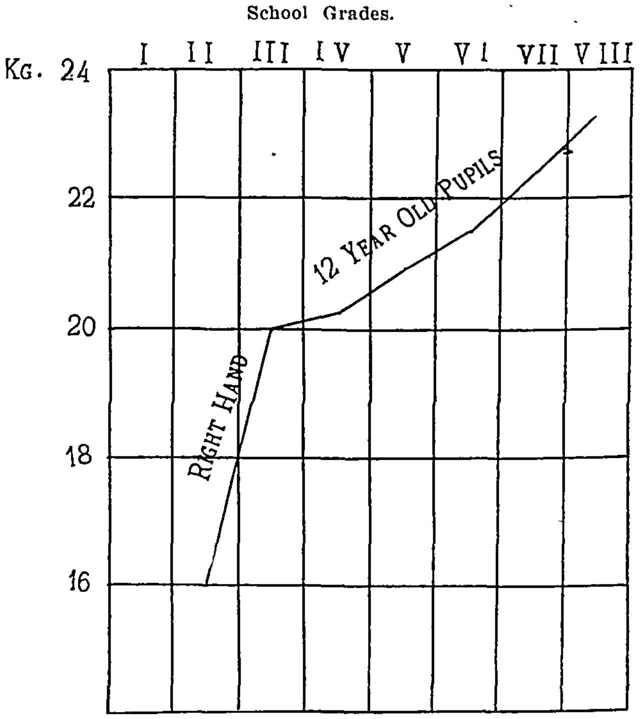


Fig. 32.—Strength of Grip and School Standing.

The extremes of ergographic work shown in Fig. 36 are very instructive. In the first grade the minimum endurance is 28.3 per cent. of the maximum endurance. This percentage continuously decreases until the seventh grade is reached, where the minimum endurance is only 18 per cent. of the maximum, and in the eighth grade it is 18.5 per cent. The actual differences are even more striking than these relative differences. A glance at the chart shows that the minimum endurance is almost the same in each of the grades, while the maximum endurances differ widely from each other. Figs. 37 and 38, giving extremes in strength of grip and in vital capacity, show essentially the same conditions as those found in the other charts of extremes. The most striking fact shown by these charts is the increase in the range of the extremes as we advance through the grades. Even before the causes of this increase in the range of the physical extremes in the upper grades is determined, the fact itself calls for greater elasticity in the work of those grades.

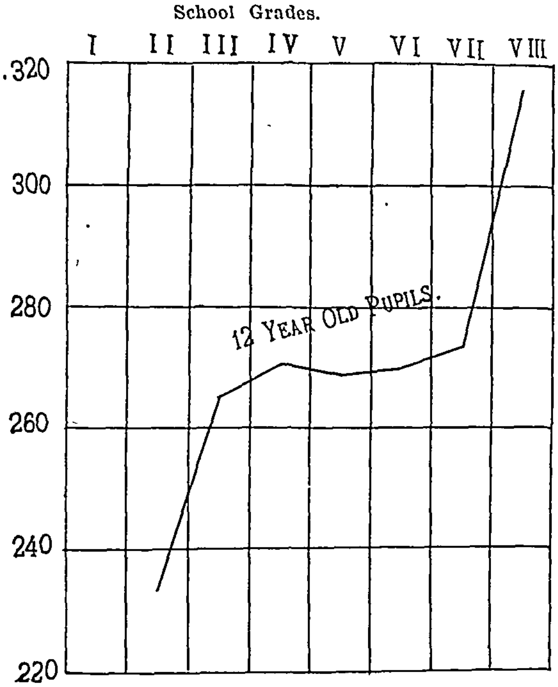


Fig. 33.—Ergograph and School Standing.

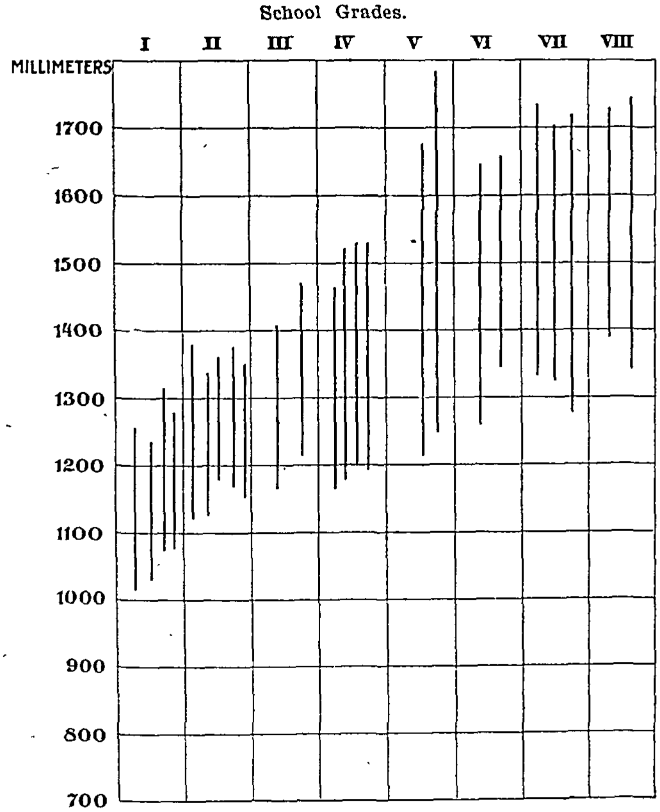


Fig. 34.—Differences in Stature Between the Tallest and the Shortest Pupil in Each Room of the Alcott School.

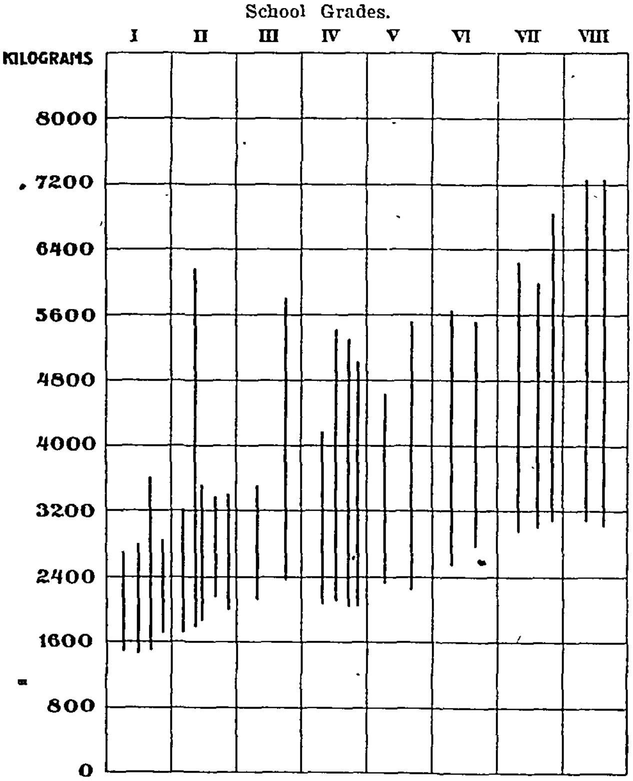


Fig. 35.—Differences in Weight Between the Lightest and Heaviest Pupil of Each Room of the Alcott School.

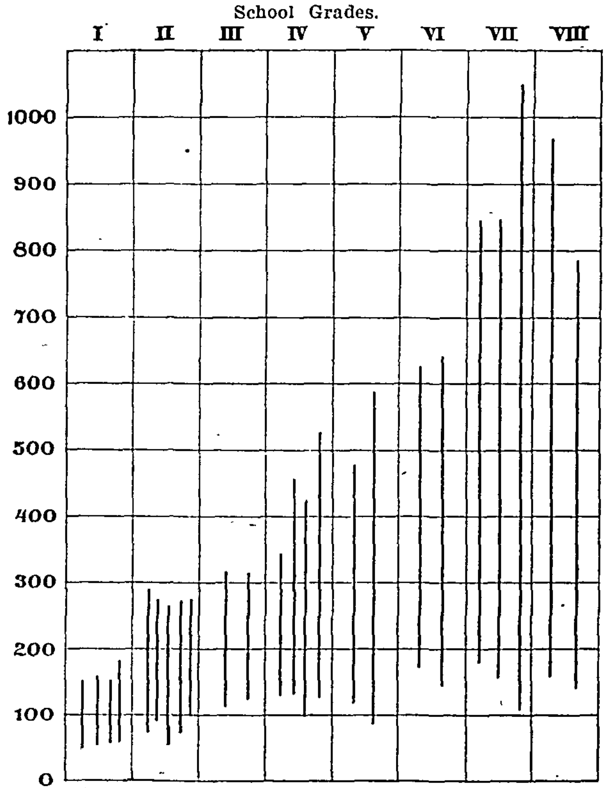


Fig. 36.—Extremes of Work on the Ergograph.

At present the work in physical culture in the schools is done by rooms, and the rooms are graded on an intellectual basis exclusively. This is, on its face, bad for the work in physical culture, but how [illegible] is [illegible] not be known until such facts as furnished by these tables of extremes had been worked out. If physical culture is to accomplish the most possible for the pupils of our

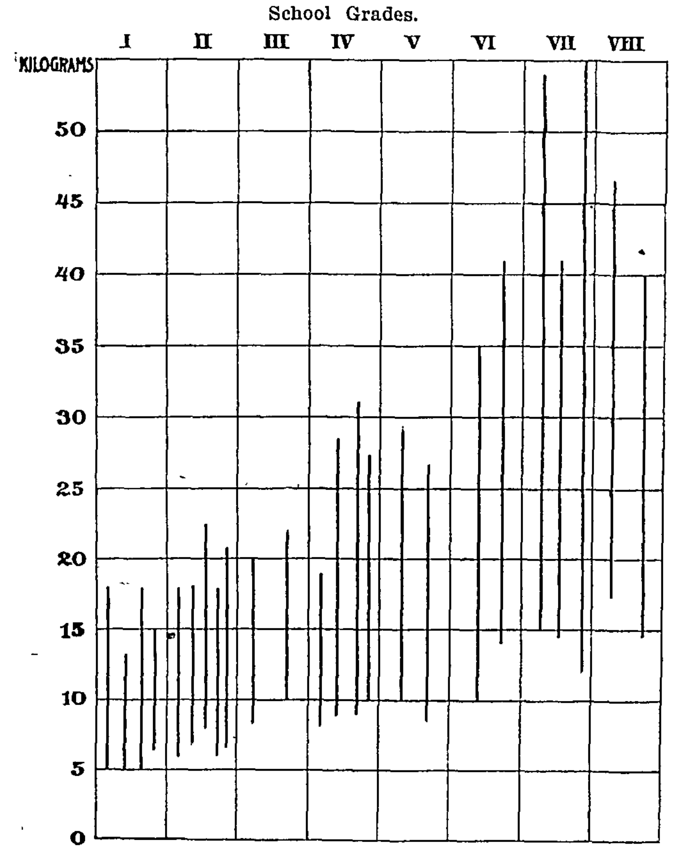
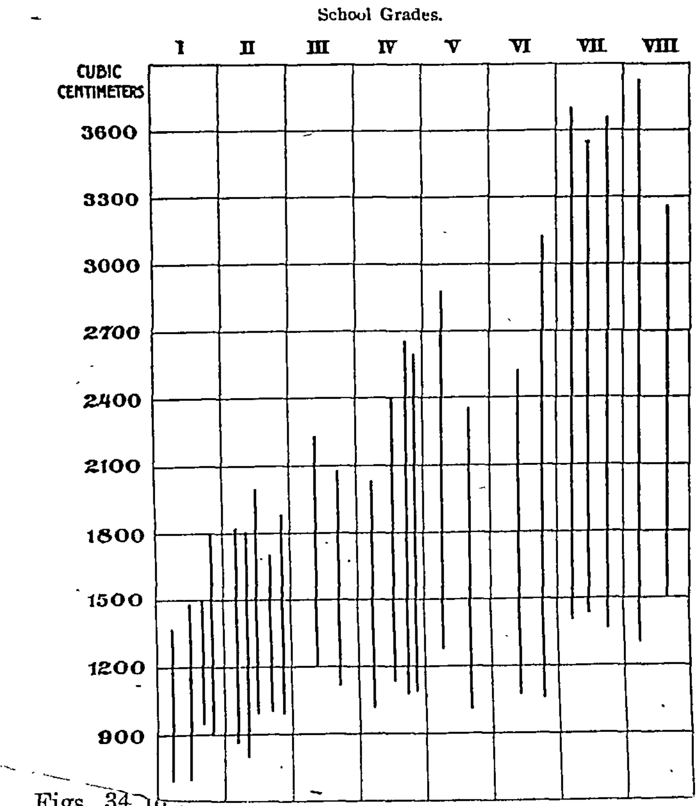


Fig. 37.—Extremes of Strength.



Figs. 34 to 38.—Extremes in Vital Capacity.

minimum measurements [illegible] ty-four rooms at the Alcott school [illegible]ded on a physical basis appears that the difference in height betw[illegible] pupils. pupil in the first grade and the shortest pupil in [illegible] eighth grade is very slight, being, in fact, only 18 mm.,

during the past year I select only the matter shown in Fig. 39. In this figure are charted the percentage of pupils of different ages having defective vision. The acuteness of vision was tested by Snellen's charts, and for the purposes of our present chart those pupils are classed as defective whose vision is twenty-thirtieths or below in one or both eyes. On this basis it is found [illegible] per cent. of the 6-year-old children have defec-

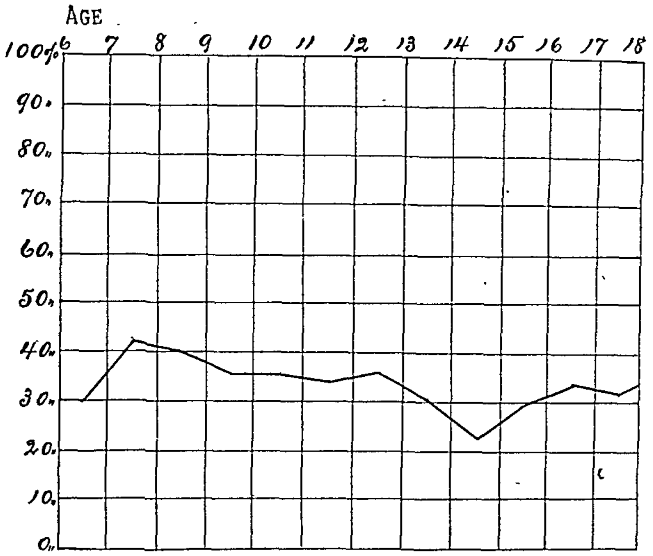


Fig. 39.—Per cent. of Pupils Having Defective Vision. Those Whose Visual Activity is 20-30 or less in one or both eyes.

Age.	Number tested.	20/30 or Below, in one or both eyes; per cent.	20/40 or Below; per cent.	20/70 or Below; per cent.	20/200 or Below; per cent.
6	264	32	7	1	0
7	363	35	8	2	1
8	351	38	13	3	1
9	343	44	17	6	1
10	364	43	18	9	2
11	385	41	17	8	2
12	364	36	16	9	2
13	373	30	14	9	2
14	450	32	14	9	3
15	521	32	15	9	3
16	475	32	16	11	4
17	339	32	16	12	4
18	173	32	16	10	8
Total tested . . .	4765				

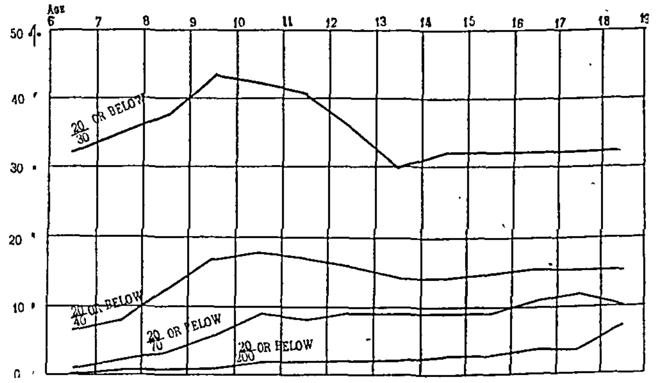


Fig. 40.—School Life and Sight. (Based upon Examination of 4765 Pupils.)

This figure differs somewhat from Fig. 39. It shows that the visual acuity diminishes during the first three years of school life, *instead of only during the first year as indicated by Fig. 39.* The improvement of vision at puberty, however, is still found to hold good.

Figure No. 39 is based upon the examination of about 1600 pupils. Since this chart was made the results of the examinations of the eyes of 4765 pupils in the Chicago Schools have been compiled. These results are shown in the following table, which gives the number of pupils of each age examined, and also the percentages of those in whom the visual acuity in one or both eyes was 20-30 or lower, 20-40 or lower, 20-70 or lower, and 20-200 or lower. The figures of this table are graphically shown in the accompanying Fig. No. 40.

tive vision, a percentage which rises to 42 at 7 years, dropping slightly immediately thereafter, and remaining essentially unchanged until the age of 12, where it is 36 per cent. Then comes a sudden drop to 23 per cent. at 14, with a return at 16 to the previous general standard. This chart certainly negatives the generally accepted idea that continued school life impairs the vision. I have no explanation to offer for the sudden impairment of vision between 6 and 7. The increased acuity of vision at 14, reaching a point of greater acuteness than is found even at 6 years of age, is so closely connected in time with the changes incident to puberty that it does not seem unwise to consider it as one of the conditions belonging to that period of florid growth and development.

BACKWARD CHILDREN.

It is in the study of backward children that the lines of thought of the schoolmaster and childrens' physician come together most intimately. In every large school system there is to be found a considerable number of pupils who are too backward mentally to keep up with their classes, or, indeed, to even drag along, and whose presence in the class rooms with normal children serves only to retard the latter without appreciably benefiting themselves. They are, however, not sufficiently backward to warrant putting them in the state institutions for the feeble-minded. The defects from which these children suffer, and to one or more of which, in each individual child, *is to be traced the cause of its intellectual deficiency*, may be classified as follows:

DEFECTS FOUND IN BACKWARD CHILDREN.

Location.	*Kind.*	*Cause.*
Sensory tracts.	Structural—	Heredity—
Central Nervous System.	Developmental.	Environment.
	Acquired.	Nutrition.
Motor tracts.	Functional—	Infection.
	Developmental.	Climate.
	Acquired.	Dwelling.
		Clothing.
		Physical activities
		Mental activities.
		Discipline.
		Traumatism.

Diagnosis of a backward child consists in:

1. Determining the defects present—sensory, motor, or associative.

2. Determining the kind of defect—structural, functional—developmental, acquired.

3. Determining the causes of these defects—heredity, nutrition, infection, and other environmental factors.

In making such diagnosis it is evident that there is required the services of the practical pedagogue, the psycho-physiologist, and the medical man. So also in the management of the cases the practical knowledge of both educator and physician must be brought to bear. Moreover, they must work in consultation and not at long range. The close relationship between medical and educational work is thus readily seen in the management of the backward child. A moment's consideration will also show that this relationship is equally close in the management of all other children. While the physician and educator are ready to meet and combine their efforts on behalf of the child, it is unfortunate that the moral teacher seems not yet ready to come in to complete the trio.

A large part of modern education is devoted to processes of developing the senses, and the motor functions. From the natural limitations of his methods of work, however, the schoolmaster is often unable to have his subject in the best condition to profit by his methods. He can not fit spectacles, he can not remove adenoids, he can not supply deficiencies in food, whether quantitative or qualitative, he can not remove toxic influences. Some of these things the physician can do. These remarks on the subject of backward children, apparently somewhat remote from the subject-matter of this paper, have their reason in the results of an examination of twenty backward children in one of the Chicago schools last spring. These children were gathered together into a so-called "ungraded" room. There were sixteen boys and four girls. The average age of the boys was 11 years, 5 months, and 10 days; that of the girls was 10 years, 4 months, and 21 days. A number of developmental defects was noted among these pupils, which would suggest imperfect formation of the brain. Two are marked as being microcephalic, their heads being below normal in size. Seven of the twenty are recorded as having cranial asymmetry; eight as having asymmetrical faces. Six are noted as having peculiarly formed ears, and nine as having narrow, high, or imperfectly formed palates. Five of the pupils had decided eye defects, the visual acuity being twenty-thirtieths or lower, while thirteen had hearing so defective in one or both ears as to place them at a disadvantage in school work. That is, 60 per cent. reached a subnormal point in hearing, to which only 24 per cent. of the Alcott school pupils of the same age fell. Malnutrition was shown by marked anemia in two of the pupils. Want of muscular tonicity was noted in seven. The nervous ergographic tracings with most of these children and the small amount of work done on the ergograph by them would indicate the same condition.

The averages made by these pupils was lower in every particular than the averages made by the Alcott school pupils of the same age, as will appear from the following table:

Comparison of the averages made in the tests by the pupils of the ungraded room with the Alcott School averages, reduced to the same age.

	Net Height. mm.	Height Sitting. mm.	Weight. kg.	Work on Ergograph. cm. kg.	Combined Strength of Hands. kg.	Vital Capacity. c.c.
Girls of ungraded room	1,274	692	27,325	100	23.8	1,375
Alcott School normals for the same age	1,323	704	29,033	180	24.4	1,444
Boys of ungraded room	1,362	724	30,880	206	32.4	1,762
Averages for same age at Alcott School.	1,378	727	31,888	261	34.6	1,763

Signs of Pancreatic Affection.—Scherschewsky has noticed that hypertrophy of the pancreas consecutive to that of the spleen compresses the abdominal aorta and causes a murmur below. Pain in the stomach region immediately after eating is another symptom of a pancreatic affection, and also reflex pains from compression of the nerve roots, such as the girdle feeling and cramps at the neck of the bladder. There is also a palpable pulsation in the stomach region, accompanied by distress and palpitation. His article is published in full in *Vratch*, No. 38.

Gutzeit Test for Arsenic in Urine.—One c.c. of urine is mixed with 4 c.c. sulphuric or hydrochloric acid, a bit of sugar added, the tube plugged with cotton and covered with a piece of filtering paper moistened with silver nitrate. It is then set aside in a dark place. If there is arsenic in the urine a yellow spot will develop on the filtering paper, its size and intensity indicating the proportion of arsenic in the urine. Blumenthal, of the Moscow Institute for Bacteriology, endorses this test as absolutely certain and accurate.—*Derm. Cbl.*, August 1.

Army Surgeons Required.—The Surgeon-General of the Army announces that 100 additional medical officers—acting-assistant surgeons—are required for duty in the Philippines and China. Only experienced graduates of reputable medical colleges, under forty years of age will be accepted.

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FINSEN'S PHOTOTHERAPY.

Finsen's investigations of the therapeutic and other properties of light have been followed with a great deal of interest. In Copenhagen a public institute, founded by public and private means, has been in operation for some time and a great deal of work has been done, especially in the treatment of lupus and other cutaneous diseases, with concentrated light. Patients have been attracted from various European countries and from America; similar institutes are being or have been established in London, Moscow, and elsewhere. Medical men have visited Finsen's institute in Copenhagen, and the reports are unanimous in their praise of the well-known Danish open-handed hospitality, and of the true scientific spirit of Finsen and his assistants. The result of this treatment of lupus vulgaris is certainly satisfactory. Inasmuch as this is a new and striking departure in therapy, surely destined to grow in importance and usefulness, it may be as well to point out briefly some of the steps in its development.

In 1893 Finsen proposed a new treatment of variola. The patients were placed in a room from which the chemical or actinic rays of the solar spectrum were excluded by the use of red glass or red curtains. When patients with smallpox are so treated from an early period of the disease, the vesicles do not become pustules, suppurative fever is absent, and there is but little or no variolous pitting. At first this announcement was received with more or less incredulity, but it has been confirmed from various sources, and there is not the slightest doubt that the exclusion of the actinic rays greatly mollifies the course of smallpox.[1] Arrangements to carry out this treatment should be made in all our smallpox hospitals. Let it be remembered, however, that it must be instituted early in the attack, and before the pustular stage.

How is this action explained? The actinic rays all come from the blue and violet end of the spectrum; their action is largely chemical and they produce but little heat; in contradistinction from the rays from the other end of the spectrum—the red rays—whose action is principally heat-producing. All are familiar with the effects of solar and other forms of light on the skin when unduly exposed. The changes vary from increased pigmentation to violent and complex forms of dermatitis. Finsen and others have demonstrated that it is the actinic, and not the caloric, rays that cause these changes in the skin. This being the case, it is only natural to look for still greater morbific action on the part of the actinic rays on skin already diseased, as in smallpox; and the beneficial effect of excluding the ultraviolet rays shows this to be the fact. Consequently, the mechanism of the action on the skin of actinic rays, their influence on the chromatophorous cells in lower animals, and other interesting physiologic facts and phenomena need not be discussed at this time. We see that this method of treating smallpox, at first somewhat strange and incomprehensible, has a fairly solid scientific basis. So far, exclusion of the actinic rays in treatment of variola has not been found to have any general injurious effects on the patients.

Finsen's studies of light as an agent of excitability[2] have shown that here again it concerns principally the action of the actinic rays; these rays determine in a very pronounced manner certain movements in lower animals. These rays are therefore quite certainly carriers of energy of great biologic importance. In addition to heat and to light, the rays of light also bring chemical forces which have not received much special attention in medicine. These forces certainly merit careful study. Singularly enough, Finsen, who called attention to their noxious effects—and the treatment of smallpox by exclusion of the actinic rays resulted—is also the one to introduce the treatment of other diseases by exposure to actinic rays. Sun-baths are not new; they have been employed in various forms since antiquity. Even baths in blue light have been used. Finsen[3] notes the work of an American by the name of General Pleasanton, who utilized blue light in diverse ways for its effects on growing plants, and also in the treatment of disease. Pleasanton published a book, printed on blue paper, entitled: "The Influence of the Blue Ray of the Sunlight, and of the Blue Colour of the Sky, in Developing Animal and Vegetable Life, in Arresting Disease, and in Restoring Health in Acute and Chronic Disorders to Human and Domestic Animals."[4] Here the remarkable chemical qualities of the blue rays are magnified into a panacea.

Finsen's treatment of lupus vulgaris is based on the bactericidal power of light. Theoretically, light should have good effect on superficial cutaneous processes of bacterial origin; but the bactericidal action of light is slow, and on that account he uses mirrors and lenses to concentrate the rays at the same time as the ultra-red, the red, the orange, and the yellow rays are excluded, because when concentrated these rays would cause a burning or necrosis of the tissues. Thus the most actively bactericidal rays, namely, the blue, are allowed to play on the diseased tisues for a considerable time each day. While the sun is the best source of light, it is not always available, and in that case electric light is used. By experience it was found that concentrated light kills bacteria many times more rapidly than diffuse light. Without going into practical details, suffice it to say, that a large number of cases of lupus vulgaris have been cured by phototherapy at Finsen's institute after a prolonged treatment, and that the amount of scarring is only moderate. The method is beginning to be used in other cities and it is probable that its use will be extended to other diseases.

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[1] See references in "Finsen, La Photothérapie." Paris. 1899.

[2] Loc. cit., 57-84.

[3] Loc. cit., p. 68.

[4] Philadelphia, 1877.

PERNICIOUS ANEMIA.

Despite the time and industry that have been expended in the study of so-called pernicious anemia, the true character and the intimate nature of the disease yet await elucidation. The most plausible explanation as yet propounded is that the disorder is a toxic process, although it has not been shown that it is dependent upon any known substance introduced from without, and it is not unreasonable to suspect that it may result from some obscure derangement in metabolic equilibrium—an autointoxication—and therefore of cellular origin. In no other way, scarcely, would it be possible to account for the variations in the course of the disease, the constancy of its symptoms, and generally its progress to a fatal termination. If this hypothesis prove to be correct, the interesting and important question will then arise as to whether we can hope to obtain a cellular or other product capable of neutralizing the evil effects produced, or of replacing the lost activity. Meanwhile, any addition to our clinical and pathological knowledge with relation to the disease must be cordially welcomed. In a communication presented at the recent meeting of the Association of American Physicians, Cabot[1] reports the results of an analysis of 110 cases of pernicious anemia in which the diagnosis was based in 19 on evidence yielded by autopsy—in addition to clinical investigation—in 60 on the presence of typical symptoms, signs, blood-examination and course, with a fatal termination—without autopsy—in 31 on the same phenomena except a fatal termination. Of these cases, 57 occurred in males and 53 in females.

The majority of patients came under observation after the 40th year, and only 28 earlier. No typical case was observed in a patient under 9 years of age; 63 were between 40 and 60, 19 over 60, 4 over 70, the oldest being 79. In 4 cases the symptoms set in immediately after parturition or during a previous pregnancy, and in 14 at the time when the menopause was expected. No definite relation with syphilis or internal parasites was noted in any case. A history of tertian malarial fever was given in 4 cases. Hemorrhage was a symptom in 37 per cent. of cases. Two cases were complicated by diffuse nephritis. No relation to carcinoma was noted in any case. Psychic factors were prominent in 3. The earliest and the most common symptom was muscular weakness. Next in frequency was pallor, in the majority with a yellow cast. Then, in the order of frequency followed dyspnea and gastric symptoms—nausea or vomiting. In more than half of the cases the gastric symptoms occurred paroxysmally, with intervening periods with relatively good digestion. Lack of appetite was complained of in not more than two-thirds of the cases. Swelling of the lower extremities was fairly constant, although relatively late. Palpitation was less complained of than dyspnea. In most cases functional heart-murmurs were present. In 17 there was evidence of mitral regurgitation and in 6 enlargement of the heart. The condition of the bowels was abnormal in the majority of cases. In 43 there was diarrhea, in 32 constipation. Vertigo was present in about one-half of the cases, headache in 34; ringing in the ears in 30, and signs and symptoms suggestive of changes in the spinal cord in 31. Difficulty of vision was mentioned in 20 cases. Retinal hemorrhage was found in 15 of 36 cases examined. Enlargement of the liver was present in 30 cases, and of the spleen in 13 cases. Evidence of emaciation existed in about one-half; elevation of temperature, in about two-thirds; albuminuria in 23, with tube-casts in 21. The urine was usually pale in color or normal. Only twice was it dark. The importance of making repeated examinations of the blood in doubtful cases is emphasized on account of the variability, from day to day, and a description of the blood conditions during remissions is given. When the red blood-corpuscles begin to increase in number, the color-index may remain high or become even still higher. As a rule, in the remissions the color-index is relatively low. Under the former conditions there may also be slight leucocytosis, made up largely from an increase in the polymorphonuclear neutrophiles and probably due to increased activity of the bone-marrow. At the same time, the percentage of lymphocytes diminishes, and the myelocytes disappear. The number of megaloblasts steadily decreases, and they are for a time replaced by normoblasts, although these also soon disappear. The size of the individual red cell is greater at some times than at others, but soon it becomes normal or subnormal. Abnormal staining reactions and oval forms disappear. The number of red cells falls to about the level of three million.

The following features are considered distinctive in the diagnosis of pernicious anemia: 1, a slow, insidious onset, without recognizable cause; 2, remarkable freedom from pain; 3, striking absence of emaciation—in most cases; 4, the frequent presence of symptoms suggestive of disease of the spinal cord; 5, paroxysmal attacks of diarrhea and vomiting occurring without any obvious relation to diet or to treatment, preceded and followed by periods in which digestion and absorption are performed without apparent difficulty; 6, the tendency to marked spontaneous imp[illegible] in [illegible] the symptoms, followed by rapid [illegible]

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[1] American Journal Med. Sciences, August, 1900, p. 139.

7, a reduction in the red corpuscles to a point below two million per cmm., without a corresponding reduction in the hemoglobin; a reduction in the number of leucocytes, and especially in the number of polymorphonuclear neutrophiles; the presence of large numbers of over-sized, well-stained red corpuscles, some of them containing nuclei—megaloblasts—together with a tendency to abnormal staining reactions, and to an oval shape in the red corpuscles. On the other hand, the following features are considered distinctive of the secondary or symptomatic anemia; 1, the presence of a well-recognized cause; 2, the steady progress of the symptoms, especially in cases of malignant disease; if gastrointestinal symptoms are present, they seldom improve spontaneously; 3, emaciation; 4, a relatively low percentage of hemoglobin, while the number of leucocytes, especially the polymorphonuclear neutrophiles, is likely to be increased, though by no means invariably. The size of the individual red cells is usually normal or diminished, and their centers are strikingly pale. Over-sized red corpuscles may be present, and may occasionally contain nuclei, but, as a rule, they are greatly in the minority, and such nucleated red corpuscles as are present are chiefly of the normoblastic type. The tendency to abnormal staining-reactions and to an oval shape in the red corpuscles is usually much less marked than in cases of pernicious anemia. Latent gastric carcinoma is practically the only disease likely to be confounded with pernicious anemia.

Of 90 of the cases, only 20 were progressive in course. In 70 there were one or more remissions, with great improvement, disappearance of the symptoms for the most part, while the color-index and the blood-count became nearly or quite normal. Emphasis is placed on the fact that pernicious anemia is not a progressive disease, but is attended with successive waves or paroxysms of alternate remission and exacerbation, for the most part without reference to treatment. Of 70 cases observed from beginning to end, the majority lasted less than two years, 12 more than three, 2 more than four, and the longest, five years. The number of relapses varied from 2 to 5 or 6. Out of the whole series, there was no case of genuine recovery. In treatment, Fowler's solution of arsenic, bone-marrow, and inhalations of oxygen were used, as well as laxatives or purgatives, but no good results are attributable to them.

PRIMARILY MULTIPLE PROLIFERATIONS OF BONE-MARROW—MYELOMA.

The bone-marrow is a complex structure harboring many different kinds of cells and performing a corresponding number of varying and but little understood functions. On account of its hidden and well-protected situation, the bone-marrow generally escapes observation and hence the knowledge of its pathologic changes is not as widely spread as of the changes of more accessible tissues. In addition to the changes that occur in pernicious anemia and other blood diseases, primary and secondary, and to inflammatory and suppurative processes, bone-marrow may be the seat of tumors of various kinds, both secondary as well as primary; but the clinical and anatomical relations of the primary forms are probably not yet fully worked out. In addition to myelogenous sarcoma, with its interesting giant cells, and to endothelioma, there occurs a primarily multiple, primary tumor growth of the marrow of certain bones, especially the vertebræ, the ribs, and the skull-cap, that is, the red marrow of adults. So far, this tumor has not been found to develop from the normal yellow marrow of the long bones. The new tissue resembles red marrow in its general appearances, and it gradually replaces the bony tissue, causing more or less diffuse, as well as nodular enlargements of the affected bones; occasionally it breaks through the periosteum and forms small infiltrations outside of the bones, but on the whole the tumor tissue is closely confined to the marrow, from which it can not be distinguished. The ribs not uncommonly undergo spontaneous fractures, and sharp curvatures may develop in the spine, as in a case recently described by Winkler,[1] which developed after a fall of about six feet. Similar curvatures also develop in the sternum, which may become greatly thickened and swollen. In nearly all cases—Winkler insists that so far, in every case—the external organs have been free from metastases, the growth confining itself strictly to the bones. In the case described by Herrick,[2] however, there is a record of double ovarian tumors of the same structure as the infiltrations of the marrow. This case seems to have been an extremely well-marked example, and there is no apparent reason why metastases may not occur, especially in the latter stages of such luxuriant proliferations of the marrow as there described. The lymph-glands and the spleen are not enlarged. There develops a pronounced anemia, the exact character of which has not been studied sufficiently. And in the urine Bence-Jones' albumose has been observed by Kahler and Pick, Fitz, and others.

The microscopical structure of the new tissue is homologous with red marrow, in so far as the tissue consists almost wholly of round cells of the same size and with rather large nuclei; giant cells are not present, except for occasional osteoclasts in the Howship's lacunæ of the disappearing bone trabeculæ; fine fibrillæ and blood-vessels occur among the tumor cells. Wright[3] shows that a large number of the cells give the staining reactions of the plasma cells, being apparently derived from similar cells present in normal marrow.

It is clear that this tumor is peculiar and has a definite physiognomy. It should not be confounded with pseudoleukemia, lymphosarcoma, periosteal and myeloid sarcoma, or carcinoma of bones. From the homology of its structure with red marrow, v. Rustitzky, who described the first case, named the tumor myeloma, and this is the name the disease is destined to bear, although cases have been recorded under other and more misleading designations.

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[1] Virchow's Archiv, 1900, 161, 252-310.

[2] Medical News, 1895.

[3] Journal of Boston Society of Medicine, 1900.

AN ADAMLESS EDEN.

The *Denver Republican* in a recent issue—August 26—analyzes some curious statistics of the population of that section, and comes to the conclusion that at present rates of progress Colorado will have before long only a feminine population. It says, with perhaps an excusable exaggeration considering the actual formidable figures it presents, that "though many more females than males are born in this state, there are two deaths of males to every death of a female." Hence, it foresees the day when Colorado will be an Adamless Eden, or very nearly one, for it is not expected that men will or can be kept out, in spite of the deadly effects of the climate or whatever else is thus affecting that region. The figures from the State Board of Health, which it quotes, show a range of from 30 to 70 per cent. excess of mortality of males over females each month of the present year, a ratio that would, if continued, soon exhaust the resident male population. How this comes about is hard to see, as no specially masculine pestilence is reported, but, of course, figures can not lie. The only suggestion that readily occurs is the proximity of Utah, but that state does not appear to be similarly suffering. The problem is left for solution to the local vital statisticians.

THE CENSUS AND MORTALITY STATISTICS.

Considering the fact that the increase of urban population is one of the tendencies of the time that troubles well-wishers of the race, and its outcome is looked on with some fearful questioning by economists, the insane ambitions of municipalities to exceed each other in population has a rather peculiar aspect. The revelations of the census have been a serious disappointment to many, and they already affect to some extent the health statistics of several municipalities, which suffer somewhat in the increase of their death-rate corresponding to the decrease of population from their estimate. It is probable that when the figures are fully in, some changes in this direction will be found to be quite general, though perhaps not extensive enough to materially affect the records. We notice a tendency to disregard the census figures in some quarters, the health officials claiming that they are in error. It seems to us that even if there is a possibility that such is the case it would still be better to follow them as the best accredited official records. The increase of death-rate would probably not be large in any case, and the data would be free from the suspicion that they had been affected or sophisticated through local feeling. A slightly too unfavorable record in this respect is better than the opposite; it has the advantage of being on the safe side and in such, as in many other matters, there is a certain power in understatement.

PATHOLOGIC ASEPSIS?

According to a German physician who recently spent some months in the Arctic region, the atmospheric conditions there have a very decided influence on germ infection and the behavior of wounds. When the air was clear and dry, putrefaction was arrested, and open wounds, though subject to constant irritation, did not inflame, but did not heal, nor show a tendency to form a scab. In damp, cloudy weather, on the other hand, mold and decomposition appeared and the slightest wounds inflamed and festered at once, though healing progressed rapidly after evacuation of the pus. A somewhat similar slowness of healing and irregular behavior of wounds have been noticed also by other Arctic travelers, and have been attributed by some to a scorbutic tendency thus manifesting itself. The fact, however, in the light of modern theories, suggests the notion that the healing powers of the system require the stimulus of germs and that an absolutely aseptic wound would go neglected and uncured. Even the most rudimentary form of inflammation may require a little sepsis for its start, and the old notion of "laudable pus" have at least a minute basis in fact. The idea is somewhat comforting on the whole, since it implies that absolute freedom from germs, so difficult to be obtained, may not be such a desideratum after all. Perhaps, when we have done our best we can console ourselves that we have left the little leaven of salutary irritation to stir up the organic processes of cure, and that this is as essential as the exclusion of the excess that would carry the process over the line of what we may call the normal pathology of reparative incipient inflammation.

SEA-WATER AND THE CELL.

A French physiologist, M. René Quinton, in a paper read before the last International Medical Congress maintains that all animal life, having first originated in the seas, still maintains for its cellular existence the same original environments; in other words, every organism, whatever its rank in the animal scale, is essentially a colony of marine cells. The first part of his proposition, that animal life had a marine origin, is sufficiently probable to be accepted; the primitive gill respiration, which he adduces as evidence, appears through the whole series of higher forms of animal life in its embryology, and all the simpler forms are of an aquatic type. The experimental evidences he offers of his main thesis are the successful displacement of all or the greater part of the blood of dogs by sea-water without causing death or damage other than necessarily due to the operative steps, and the persistence of the vitality of the white blood-corpuscles of all classes of organisms in the same medium, which he claims to have demonstrated. Lastly, he offers as evidence the identical chemical composition of the blood plasma and sea-water. The salts of the one are the salts of the other, seriating moreover in the same order of importance, viz., 1, sodium, chlorin; 2, potassium, calcium, magnesium, sulphur; 3, silicon, carbon, phosphorus, fluorin, iron, ammonia and iodin. Still further, he claims sea-water and blood contain in like proportion minute quantities of other elements, such as bromin, manganese, copper, silver, lead, lithium, etc. This may not be an ab[illegible]tely novel conception; it may possibly ha[illegible] to others, but we have not seen it p[illegible] and prominently elsewhere. It is practical ways; sea-salt normal solution, or sterilized sea-water itself, may turn out to be the best restorative and it is still further suggestive in connection with the comparatively recent researches of Morgan, Loeb, and others on the parthenogenetic development of certain organisms in differently modified marine media. There is possibly a large field for study and work in the direction here indicated.

ERGOGRAPHIC TESTS IN SCHOOL CHILDREN.

The article by Dr. Christopher, published in this and the preceding issue of THE JOURNAL, treats of a subject that has a more than passing interest. The welfare of the child, and especially at the critical period of puberty, is an important matter and it is easily seen how faulty educational methods may have a damaging influence that will be felt through all the future life of the individual. Dr. Christopher has utilized the methods of modern physiologic research and has availed himself of the services of assistants skilled in instrumental psychologic experimentation, which would naturally add to the value of the observations. From this study he demonstrates already some facts that are suggestive, if not conclusive, such for example as that shown by the power curve through the school-day and the corresponding ergograms. It is apparent, at least, that the child needs more frequent respite from school duties than is always given by modern pedagogues. School-teachers are liable perhaps more than others to become opinionated and arbitrary, hence the need of their proper instruction on matters that concern the welfare of their charges. It would be well, therefore, could they generally study such articles as that of Dr. Christopher, which illustrates by graphic methods the effects of mental work on muscular and nervous endurance. At present we have a strong suspicion that some popular teaching methods are unphysiologic and liable to produce serious effects by the overstrain of immature and, therefore, especially vulnerable organizations. The paper we publish is essentially a preliminary one, as the investigation is still being carried on. That it involves a possibility of important and beneficial results needs hardly to be stated.

MYOSITIS OSSIFICANS.

The calcareous degeneration of certain tissues is a well-known fact, but the formation of true bone in the tissues, not normally thus developing, and apart from any direct connection with the natural bony growths, is still to some extent a pathologic curiosity. This is especially true of the ossifications of the muscles, of which a comparatively small number of cases have been reported in medical literature. Dr. Lydia M. Dewitt reports[1] a case, with the discussion of the literature of this subject, in part honestly acknowledged as second-hand, with the theories that have been proposed to account for the condition. The fact that in certain animals the so-called splint bones occur has a certain physiological bearing, but the facts do not fully apply to the human subject. The curious malformation that has been observed in some 75 per cent. of the recorded cases of this disease of microdactylia and imperfection of the thumb and great toe is of interest, and is one of the unexplained but indefinitely suggestive peculiarities that we sometimes meet with in connection with obscure diseases. Dr. DeWitt's idea seems to be that on the whole the condition is not so mysterious a one as might be supposed. The fact that different members of the connective-tissue group change with special readiness into other forms of connective-tissue structure is, she holds, a probably sufficient explanation, lacking others a little more definite. She does not consider the suggestion of Gegenbaur, of specialized osteoplastic nuclei existing from before birth, as necessary to account for the pathologic bone formation. The cells which in certain regions act as osteoblasts are not, she thinks, necessarily histogenetically different from those which in other localities develop into fibrous connective tissue. The subject is by no means definitely cleared up, but her communication is a reasonable discussion of the facts and probabilities.

THE DISASTER AT GALVESTON.

The terrible disaster at Galveston, the reports of which have as yet only partially reached us, seems likely to be one of the worst on record, exceeding even Johnstown in loss of life and property. If commercial reasons make it inevitable that we shall build our cities where they are subject to such disasters as those that have twice afflicted Galveston, it would seem necessary that some special measures should be taken to ensure their protection. The building of houses directly in the sand, where they are liable to be flooded, appears to court disaster, and the chances for such a hurricane, even only once or twice in a century, should be kept in mind. The results of the catastrophe, aside from the direct mortality, are most serious, as there is said to be an immense number of injured and maimed, and the sanitary conditions, as in Johnstown and Titusville, following such a flood require thorough and immediate attention. This is a matter of more importance in the latitude of Texas than it would be farther north. More than this, the survivors, in their wrecked and dismantled homes, are exposed to still other perils and hardships, the water-supply is cut off, and, hence, the dangers of fire and of a water famine are also imminent. With all these things to affect the health, there is yet the moral effect of such a catastrophe, which can not well be estimated, but which can only be a factor in the total outcome of the misfortune. The revival of the city is, we trust, beyond question; and the injury it has received we hope may prove to be only a temporary one. It should and will have the active sympathy and aid of more fortunate sections of the country. It is to be hoped that engineering skill will, in repairing the mischief that has been done, find a way to insure against a repetition of the calamity.

THE LATEST DECREE OF THE ANTIVIVISECTIONISTS.

Among the numerous Congresses held in Paris during the past summer, there was one called the International Congress of Animal Protection Societies. While not ostensibly in the interests of the antivivisectionists, it was evidently captured by them. A resolution was introduced stating that "vivisection is a crime unworthy of the toleration of any people calling themselves civilized." A separate vote was taken of the anti-cruelty societies, and in them it was voted down, as they simply worked to restrict, not to abolish vivisection. The vote of the antivivisection organizations, which predominated in the Congress, was, however, so overwhelming that the resolution was carried by a majority of about two to one, so that, as one John Vedder, M.D., whose statement of the facts we follow, holds the "minds of the International Congress of Animal Protection Societies was for the total prevention of vivisection." This he claims as a great victory. The meeting was apparently an obscure one, as we have seen no mention of it elsewhere than in this communication to the *Boston Transcript*, but it is of sufficient medical interest to be mentioned here; it is well to know what the enemy is about. If the antivivisectionists and zoöphiles can so have their way, they will in time make it a greater crime to sacrifice an animal for the benefit of mankind than to murder one of their own species. Human life is little regarded by their co-believers in India, who butchered Englishwomen in Cawnpore, and the prejudices of the Hindoo population in this direction have created some of the most serious obstacles to the successful combating of the plague amongst them. The European and American antivivisectionists seem really little more open to reason than are their Asiatic confrères, and they certainly show a like intolerant spirit. There is nothing so inhuman as idolatry, and the individual who sets up a fad as his divine image and demands that others as well as himself shall bow down to it, is, in his way, as benighted a pagan as Nana Sahib or the Chinese Boxer of to-day.

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[1] American Journal of the Medical Sciences, September.

A UNIFORM CLASSIFICATION FOR HEALTH STATISTICS.

Elsewhere in this issue—on page 705—will be found a brief report of the late session of the International Congress of Hygiene and Demography and its action regarding an international classification of diseases. The advantages of such an universal system are obvious if the data are to be utilized, and it may be that the Paris classification adopted is a good one for this purpose. It is not above criticism, however, for it appears to us, as given in the mortality reports in the Paris journals, as deficient in several respects. The only forms of nervous disorders included are: cerebral hemorrhage and congestion, paralysis, softening of the brain and simple tuberculous meningitis, that is, if we accept the classification as published in the Paris medical journals. It is possible that the arrangement is extended in the original records and the 15 or 20 per cent. of "other causes of death" lump together many cases of tabes, paresis, epilepsy, angina pectoris, and various other affections from which Parisians are certainly not exempt. Unless this is the case, and we can only assume that it is, in these and some other respects some of our American municipal classifications appear preferable, and it is to be feared that the recommendation of the Congress will not at once be universally accepted. The fact that it was composed, to a large extent, of laymen and that the largest number of medical delegates were probably Parisian, or at least French, may account for the selection of this system. If the one chosen is to be generally adopted, it is to be hoped that some provisions are to be made for the possibility of its early modification, provided that its apparent defects above noticed are not merely apparent ones. While an international system is a desideratum, it would be well if in our own country a more uniform system could be adopted by the different state and local authorities in making out the reports on which are based our mortality statistics. A uniform system of reports based on the best now used would be much more valuable in every way than the present unscientific lists that are sent out by many health boards. This is a subject worthy of consideration on the part of health officers, and others interested in health statistics.

Medical News.

ALABAMA.

Dr. Irwin W. Patton, of Huntsville, has been appointed acting assistant-surgeon in the army, and directed to report for duty to the commanding officer of the United States forces in China.

ARIZONA.

Dr. G. W. Greenleaf, of San Diego, Cal., has been appointed physician of the Fort Young Indian School, Yuma, vice Dr. William T. Hefferman, resigned.

The Sanatorium at St. Mary's Hospital, Tucson, will soon be ready for occupancy. It is a building in pavilion style, with twenty-four rooms, sanitary arrangements of the latest model, and will cost about $25,000.

CALIFORNIA.

Dr. William H. Flint has returned to Santa Barbara and resumed practice.

Dr. Fisher R. Clarke has returned to Stockton, after a two months' trip to Cape Nome, Alaska.

Dr. Barton Dozier and Miss Mary D. Boynton, both of Los Angeles, were married on August 27.

San Diego had only fifteen deaths in July, "thirteen white, one black and one yellow." No contagious disease exists in the city.

Dr. Alden M. Gardner, medical superintendent of the Napa Asylum for the Insane, will, it is reported, soon resign and establish a private sanatorium in the Ralston mansion, at Belmont.

"Helminthologists" are in trouble in Los Angeles because they have been practicing without first obtaining the required license to practice medicine in the state. "Dr." Genaro Yglesias was arraigned, and after making a strong fight, was finally convicted and fined $200 and costs.

The health officer of Jackson reports that on August 24 twelve houses were under quarantine for smallpox, with ten cases of the disease, all the patients being convalescent. Ranlett Station had one smallpox case, and neither Sutter Creek nor Rancheria Creek reported any spread of the disease.

The board of health of San Francisco has endeavored to obtain possession of a fund of $4000 reserved for epidemics, on the ground that there is one smallpox case in the isolation hospital, but the supervisors have refused to turn over the money, claiming that it was to be used only in case of the outbreak of an epidemic.

Dr. W. M. S. Beede, who for the last four years has been in the Orient, first as U. S. consular surgeon at Hongkong for three years, where he went through two epidemics of bubonic plague, and then as chief surgeon of the National Red Cross Hospital at Manila, has returned to Stockton and will resume practice there.

It is reported that five hospital tents are to be put up at the Presidio to accommodate the overflow from the General Hospital there. The San Jose *Mercury*, in commenting on this report, recommends the Berkeley hills, and condemns the present location, stating that "there is no excuse for a general hospital at the Presidio."

Mentone, San Bernardino County, is to have a new sanatorium. Several Los Angeles physicians, including Drs. William M. Lewis, Ralph Hagan and Josiah E. Cowls, have recently inspected a large tract of land on which it is proposed to erect a sanatorium, which the promoters claim will be one of the finest in the state.

A sanatorium for consumptives is to be established in Strawberry Valley, San Jacinto, by the California Health Company, at a cost of $50,000 to $60,000. The plans contemplate a center pavilion with forty bed-rooms, lounging, smoking, reception and consultation rooms: this pavilion to be surrounded by small cottages. Half a mile away a small village of cottages is to be built for patients who wish to do housekeeping in a small way.

The employees of the Southern Pacific Railway at Oakland have made a vigorous demand for prompt care of the injured. They claim that since the establishment of the main hospital for the company in San Francisco many injured men have been forced to wait and suffer for hours before removal to the hospital. Before the company abandoned its hospital work in Oakland, it is said, prompt ambulance service and hospital attention were rendered the sick and injured.

The report of the State Hospital for the Insane at Stockton shows that for the year ended June 30, 1900, the total number of patients under treatment was 1397. Of these, 96 were discharged as recovered, 35 as improved, 11 as unimproved, and 2 as not insane. The deaths were 154, and 9 escapes were reported. Of the 319 patients admitted during the year, 173 were native-born, and 30 of these were Californians. The causes for the insanity are given as follows: Intemperance, 23; religion, 6; morphinism, 4; "living alone and drinking unfermented wine, 1; "fear and excitement during initiation to a lodge," 1; "association with fortune-tellers," 1; "worry and wanting to get married," 1.

COLORADO.

Dr. Carey K. Fleming, of Denver, secretary of the State Board of Medical Examiners, was elected president of the Rocky Mountain Interstate Medical Association, at its recent meeting at Butte, Mont.

Three thousand school children in Denver have been vaccinated during the last weeks preceding the opening of the schools. Extra precautions in this regard are being taken by Dr. Thomas J. Carlin, health commissioner, on account of the prevalence of smallpox throughout the country.

The State Board of Health, in its latest circular, defends itself against the charges that it is persecuting consumptives and trying to run them out of the state, and quarantine against consumption. It disavows these charges and claims that its endeavors are solely to aid consumptives, as well as others. To this end it has promulgated rules for the education and guidance of consumptives.

CONNECTICUT.

Dr. Dean Foster, who was removed from the house staff of the New Haven Hospital for an infraction of discipline, which was apparently justifiable, has profited by his misfortune. He has been appointed resident surgeon at St. Vincent Hospital, New York City.

The regular practitioners of New Britain, indignant at being unrecognized by the corporators of the hospital at that place, treated with contempt by the directors, ignored by the executive committee, and snubbed by the matron, called a meeting, presided over by Dr. Samuel W. Irving, at which the following resolutions were passed: Resolved, that the members of the regular medical profession are entitled to at least one-third representation on the board of directors of the New Britain General Hospital, and that one of those aforementioned representatives should be a member of the executive committee of said institution; resolved, that the regular medical profession of New Britain nominate from its members a medical and surgical staff, and that said staff should have control of all things pertaining to medical and surgical matters.

DISTRICT OF COLUMBIA.

The Georgetown Hospital was the beneficiary of a lawn-fête, held on the campus of Georgetown University, September 4, 5, 6 and 7.

The two representatives of the medical department of the army, at the meeting of the American Public Health Association, at Indianapolis, October 1 to 5, are Major Charles Richard and Major William O. Owen.

The commissioners are meeting with difficulties in their efforts to secure a site for the new municipal hospital. They found a wide divergence between the prices asked for land and the ordinary valuation of the same property. This may act as a boomerang, as property-owners may be asked the reason for low assessments and tax payments on land which, under the present circumstances, they hold at so high a figure. Meanwhile matters regarding the hospital are at a standstill.

The District health report for the week ended August 30 showed a decided improvement over that of the previous week. Deaths amounting to 106 occurred in the week, making an annual death-rate of 13.71, as compared with 21.88 per 1000 for the week ended August 23. Typhoid fever caused 4 deaths, and 1 death occurred from whooping-cough. There were held in quarantine 33 cases of scarlet fever and 25 cases of diphtheria, an increase over the figures of the preceding week.

FLORIDA.

Dr. S. H. Woods, a graduate of University Medical College, Kansas City, has settled in Fort Meade for practice.

GEORGIA.

Dr. Harry M. Clarke, of Milledgeville, who moved to Atlanta early in the year, has returned to Milledgeville and resumed practice.

Dr. James F. Alexander, of Atlanta, one of the oldest practitioners in the city, has retired from practice on account of the rapid failure of his health.

The quarantine station at Savannah has been sold to the United States Marine-Hospital Service for $20,000. Since 1898 the station has been under the charge of the marine-hospital officials, pending report of the arbitrators appointed to fix the value of the station. Health Officer Brunner says that the station is the largest and the most important yet acquired by the Marine-Hospital Service, and should add to the prestige of that branch of the government service. If the results are good, it will lead to the acquiring of other stations, and it is therefore both the interest and the duty of the Marine-Hospital Service to give Savannah the best service of which it is capable.

ILLINOIS.

Dr. Merritt S. Jewell, of Olena, has removed to Little York.

Dr. Edgar E. Kilby has removed from Emden to Congerville, Woodford County.

Dr. Charles L. Koch, of Quincy, was married at Pittsburg, Pa., August 28, to Miss Susie E. Long, of that city.

Dr. J. R. Allen, of Custer, who has been suffering from a severe attack of appendicitis, is slowly recovering.

Dr. George E. Barth, who has practiced medicine in Rock Island for a quarter of a century, will remove to St. Louis.

Dr. L. D. Rockefeller will locate in Kewanee and will succeed Dr. John Murchison, who has removed to a mining town near Galesburg.

The barn of St. Joseph's Hospital, Joliet, the north end of which was used as an isolation ward, was seriously damaged by fire on August 28.

A partnership has been formed by Drs. Henry Hatch and John H. Rice, of Quincy. During the absence of Dr. Hatch, who sails for Europe in a few days, Dr. Rice will attend to the practice.

St. Clement's Hospital, Red Bud, is now ready for the reception of patients. The hospital is a three-story brick structure, is heated by steam and is elaborately equipped in every department.

Chicago.

Dr. William M. Harsha has returned from his vacation trip to Europe.

Dr. Albert B. Hale is lying seriously ill with typhoid fever at the Baptist Hospital.

The Post-Graduate Medical School has increased its capital stock from $20,000 to $40,000.

Dr. John A. Robison and wife have returned from their summer outing at Algonquin, Mich.

Dr. Henry T. Byford and family have returned from their summer home at Crystal Lake, Wis.

Drs. Homer O. Bates and Laura C. Bates have returned from their summer outing at Thousand Islands, N. Y.

Mount Sinai Hospital has been incorporated by Drs. Rudolph Menn, George M. Silverberg and Adolphus E. Berting.

Dr. Thomas Hughes was married to Miss Rose Myrtel Wakely, of Milwaukee, at St. John's Cathedral, September 5.

Dr. Morley Da Costa Bates, son of Dr. Homer O. Bates, was married to Miss Edith Gray Brown, also of Chicago, on August 29.

Boulevard Sanitarium has been incorporated with a capital stock of $2500, by Drs. Harry J. and Wellington T. Stewart and W. Clark Allen.

Harvey Medical College officers tendered a reception to the faculty, graduates and students on September 3. The lectures for the new term commenced on September 4.

The first regular meeting of the Chicago Gynecological Society for the year 1900 will be held in the Chicago Medical Society rooms, Friday, September 21, at 8 p.m.

Drs. A. J. Ochsner and A. H. Ferguson have been appointed professors of clinical surgery in the medical department of the University of Illinois—College of Physicians and Surgeons.

Dr. Archibald Church has been recently appointed professor of nervous and mental diseases and head of the neurological department of the Northwestern University School.

Dr. George P. Dreyer, associate professor of physiology at Johns Hopkins Medical School, has been elected to the chair of physiology in the College of Physicians and Surgeons, and will take up the duties of his new position October 1.

HEALTH DEPARTMENT.

The health department has been notified that it has been awarded one of the grand prizes at the Paris exposition for its exhibit of blanks, charts and other forms in use at the office of the department.

Bubonic plague is the text of an exhortation of the commissioner of health to the city and people to keep streets, alleys, homes and public buildings scoured and clean. He does not believe that the disease will gain a foothold even in the coast cities.

Controlling works at the junction of the river and the Sanitary Canal are favored by the health department, which deems such works necessary. At present it requires from eight to twelve hours to shut the gates at Lockport and stop the current, and during this time the garbage and sewage is prevented from taking its natural course through the canal, and the health of Chicago is thereby endangered.

Computed on the Federal census figures of Chicago's population—1,698,575—the death-rate of the last two weeks is 13.60 per thousand per annum, as against 15.75 per thousand for the corresponding period of 1899. This latter rate is computed on 5.44 per cent. less population than that of 1900. Since the unprecedentedly hot week of August 11, the weekly number of deaths has steadily declined, so that the total mortality for August—2138—is only 66 in excess of the average August mortality—2072—of the previous five years, and is 123 lower than for August, 1896. Should the present favorable condition of the public health continue through September, the total deaths for the year will hardly exceed those for 1899, notwithstanding that the first seven months indicated a much higher total. Deaths from the impure-water diseases continue to be gratifyingly few as compared with former years, the total for the last two weeks being 218, as against 269 for the corresponding two weeks of last year. Except for an unusual number of deaths from suicide and other forms of violence there is either no noteworthy increase or an actual decrease in the deaths from the principal causes. The deaths reported for the week ended September 1 were 443, or 32 less than for the corresponding week of last year; the death-rate per thousand was 13.70 as compared with 15.40 for 1899. Of males, 251, and of females, 192, died. The deaths of children under 1 year of age were 116; between 1 and 5 years, 56, and over 60, 67. The principal causes of death were: Acute intestinal diseases, 111; consumption, 40; violence, 39; pneumonia, 23; heart diseases, 22; nervous diseases, 18; Bright's disease, 16; cancer, 15; suicide, 10; typhoid fever, 6, and sunstroke, 4. During the week 628 births were reported. The total deaths for the week ended September 8 were 444, or 52 less than for the corresponding week of 1899. The death-rate per thousand was 13.61, as compared with 16.09 for last year. By sexes the deaths included 255 males and 189 females. By ages, 122 died, under 1 year of age, 51 between 1 and 5 years, and 68 over 60 years. The chief causes of death were: Acute intestinal diseases, 94; nervous diseases, 40; consumption, 39; violence, 39; heart diseases, 38; pneumonia, 16; cancer, 14; suicide, 12; typhoid fever, 7, and sunstroke, 2. During the week 562 births were reported. In the laboratory 139 bacteriological examinations were made; 10,540 vaccine tubes distributed; 100 antitoxin treatments given, and 339 samples of milk examined, 10.62 per cent of which were below grade. At the stockyards, 66,996 pounds of meat were condemned.

INDIANA.

Dr. William B. Blackstone, of Crown Point, will remove to South Bend.

A partnership has been formed by Drs. Samuel G. Todd and Edgar A. Doan, of Mishawaka.

The State Medical Board reports that 6115 physicians have thus far been registered in the state.

Dr. W. R. Amick, of "consumption cure" fame, died from heart failure at Columbus, August 30.

More than six hundred physicians have registered and are licensed to practice in Marion County.

Impetigo contagiosa is reported to be epidemic in Indianapolis, where it has commonly been mistaken for tinea sycosis.

Dr. F. W. Brown, assistant medical examiner for the Pennsylvania Volunteer Relief Association, has had his headquarters removed from Logansport to Fort Wayne.

Dr. D. R. Brower, of Chicago, delivered an address at La Fayette, September 5, before the Tippecanoe Medical Society, on "New Things in Neurology, and Diagnosis and Treatment of Locomotor Ataxia." Stereopticon views were utilized to illustrate the important points.

The new buildings of the Longcliff Hospital, the Northern Indiana hospital for the insane, at Mishawaka, were formally opened on August 28, in the presence of Governor Mount, other high state officials and invited guests. Several hundred insane patients, who have been confined in the county jails and asylums of this district for lack of accommodation in the state institution, will be transferred to the new ward building.

IOWA.

Dr. Harold Bailey, of Charles City, has started for Europe, where he expects to spend a year in study.

Dr. J. H. Stanton has disposed of his practice at Harper's Ferry and has moved to Prairie du Chien, Wis.

Dr. Jesse B. Buck, of Iconium, has purchased the practice of Dr. L. T. Goisuch and will move to Moravia.

Dr. Frank La Force, of Ottumwa, is serving an interneship in the Illinois Charitable Eye and Ear Infirmary.

Dr. Lorenzo T. Gorsuch, of Moravia, has sold his practice on account of ill health, and will go to either Colorado Springs or Oakland, Cal.

Dr. Howard W. Seager, of Des Moines, has been appointed an acting assistant-surgeon in the army. He served as hospital steward in the Philippine campaign.

The physicians of Mason City held a meeting on September 3 to consider the question of a city hospital, and appointed a committee to look into the matter. Two sites for the proposed hospital have been offered gratis, and there seems to be no doubt that the funds for erecting and equipping the hospital will be quickly raised.

Muscatine County has been sued by Dr. F. E. Schmidt, of Muscatine, for $575, for services rendered during the recent smallpox epidemic in that city. The petitioner sets forth that during March, April and May, 1900, he was employed by the board of health to disinfect places and houses where smallpox patients had resided, or had been kept, and that his bill had been disallowed by the board of supervisors of the county.

KANSAS.

The College of Physicians and Surgeons, Kansas City, was formally opened on September 4, at Sixth street and Ann avenue.

The employees of the ice plant and packing house have contributed $50 and fitted up a room in the new hospital at Winfield.

Dr. Hubbard Linley, of Atchison, has been appointed to the chair of accidental and orthopedic surgery in the Central Medical College, St. Joseph, Mo.

Suit has been brought against a physician of Topeka for $5500. The complainant avers that his ankle was dislocated, was not properly set and that he is now a cripple.

MAINE.

Dr. E. H. Doble, a graduate of the Baltimore University School of Medicine, has located in Presque Isle.

Dr. Blanche Mansfield, of Old Town, a graduate of the Woman's Medical College of Philadelphia, will practice in Bangor.

Dr. John F. Hill, who was elected governor of Maine on September 10, is the second medical man to preside over the affairs of the state. In 1878 Dr. Alonzo Garcelon was elected governor, being the only democrat ever elected to that office in Maine. Governor-elect Hill was born in Eliot, in 1860, was graduated from Bowdoin Medical School in 1877, and ten years later took another course and received a diploma from Long Island College Hospital, Brooklyn. After a few years of practice he retired and became interested in various industrial enterprises in the state. He has been a member of the state legislature since 1892.

MARYLAND.

Dr. John H. Jamar, of Elkton, Cecil county, has inaugurated a movement for a drinking fountain in that place for man and beast.

Dr. William J. Todd has been appointed surgeon for the Northern Central railroad, at Mt. Washington, to succeed the late Dr. Josiah S. Brown.

At the annual graduating exercises of the Nurses Training School, connected with the Western Maryland Hospital, at Cumberland, on September 6, three nurses were graduated.

The ease with which deadly poisons can be purchased in this state for suicidal or homicidal purposes has been emphasized by the recent death of a young woman from morphin. There is no law in Maryland restricting or safeguarding in any way the sale of poison. Maryland is the only state without a pharmacy law. Legislation only extends to requiring druggists to qualify and become registered. The State Board of Pharmacy is taking steps to have this amended so as to have a complete law.

Baltimore.

Dr. James Bosley, health commissioner, has gone for a two-week's vacation to the Great Lakes.

Dr. Henry M. Hurd, superintendent of Johns Hopkins Hospital, will spend the month of September at Charmion, Pa. During his absence Dr. Andrew H. Whitridge will have charge of the Hospital.

Dr. Pierre G. Dausch has been sued by a widow for $20,000 damages. She alleges that on September 10, 1899, the doctor performed on her husband a surgical operation from the effects of which "he became sick, sore and disordered, and in consequence thereof, died on or about Sept. 14, 1899."

Dr. Flora A. Brewster has been indicted by the grand jury on a charge of establishing and keeping an asylum for the care of the insane at 1221 Madison avenue, without first obtaining a license from the state lunacy commission. Dr. George J. Preston, secretary of the Lunacy Commission, was the principal prosecuting witness.

Suit has been brought against Dr. Joseph C. A. Wunder for $10,000 damages. The suer alleges in his bill that he ran a splinter of wood into his hand and went to Dr. W. for treatment; that after being treated by the latter he failed to obtain relief, but was relieved by other professional skill. He also charges that an operation done by Dr. W. caused him to lose the use of a finger. Dr. Wunder says when the case comes to court he will be able to prove that his treatment of the case was correct.

Health Commissioner Bosley will not recognize, at least for the present, the population of this city as given by the U. S. census bureau, but will continue to estimate the mortality on a figure about 32,000 in advance of the census figures. The death-rate for the week ending September 1 was 19.70—whites, 18.53, colored 26.66—per thousand. Of these cholera infantum caused 25 deaths; consumption, 30; dysentery, 11; Bright's disease, 18; heart disease, 9; typhoid fever, 7, and diphtheria, 3.

MASSACHUSETTS.

Dr. Joseph H. Broadbent, Jr., of Roxbury, has been appointed pathologist at Roosevelt Hospital, New York City.

Dr. William A. Jackson, Jr., of Haydenville, has sold his practice and property to Dr. Victor S. Merritt, of Hartford, Conn.

Dr. Lionel A. B. Street, of Brookline, acting assistant-surgeon, U. S. A., who is now on his way to the Philippines, has been ordered for duty with the corps of engineers.

Dr. Frederick T. Clark has resigned his position at the state hospital at Poughkeepsie, N. Y., and will locate in his home, Westfield.

A large tract of land on Mount Auburn street, Cambridge has been transferred by the Cambridge Hospital to Harvard University. It will be used as the site for the new infirmary.

Dr. Carl E. Sleeper, a graduate of Dartmouth Medical School of 1900, has been appointed interne at the Burbank Hospital, Worcester, to succeed Dr. R. C. Cross, resigned.

Morton Hospital at Taunton has a thoroughly equipped operating annex. It includes a sterilizing plant and a special operating, anesthesia, recovery and accident rooms. It now asks to have two new wings built, one at either side of the main building.

Vaccination is called "assault" in New Bedford, the question being whether a physician of the board of health has the right to vaccinate a child against the wish of its parents. Dr. J. P. St. Germain, who was engaged in house-to-house inspection and vaccination, is said to have vaccinated two children against the wish of their parents. They have applied for a warrant for the vaccinator's arrest on a charge of assault and battery.

New Bedford is now going through the experience many Western states have had, and is agitated by the question whether its epidemic disease is chicken-pox or a mild form of smallpox. Little quarantine has been maintained and there are grave apprehensions as to the real nature of the disease. The board of health is now taking active measures to stamp out the malady.

MICHIGAN.

Dr. Harry S. Kiskadden, of Detroit, has been appointed health commissioner to succeed Dr. B. Howard Lawson, resigned.

Dr. A. Bruce Henderson, of Detroit, has been appointed acting assistant-surgeon in the army, and has sailed for the Orient.

The mortality of Detroit for the week ended August 18 was 113, 55 being children under 5 years of age. During the same period 56 births were reported.

Detroit reports 4927 deaths for the year ended July 1. Of this number 460 were due to pneumonia, 159 to cholera infantum, 34 to suicide, and 2 to murder.

The Woman's Hospital and Infants' Home, at Detroit, has been incorporated; this is merely a change of name from the Woman's Hospital and Foundlings' Home, and means only a reorganization.

Ludington physicians refuse to accept the appointment of health officer, because the salary has been fixed by the city council at $300. During the first half of the year there were six deaths in the city from preventable diseases.

MINNESOTA.

Dr. Ralph J. Sewall, of Two Harbors, expects to have his hospital ready for patients this month.

Dr. Alexander J. Stone, of St. Paul, will probably receive the democratic nomination for congress.

Dr. C. James Beise, formerly of Tracy, who has been taking a post-graduate course at Johns Hopkins Hospital, Baltimore, has located at Fergus Falls.

Norwegians in St. Paul have started a movement toward the establishment of a hospital for their countrymen. Dr. Eduard Boeckmann and others have organized committees to obtain funds for this purpose.

The public baths at St. Paul, established and efficiently managed by Dr. Justus Ohage, health commissioner, reflect great credit on the discernment and executive ability of that officer. Over 213,000 have bathed at Harriet Island; in the hot weather as many as 6000 to 10,000 a day have bathed there. The cost of the establishment has been less than $10,000.

Dr. Henry M. Bracken, secretary of the state board of health, makes the serious charge against Dr. Aretus K. Norton, health commissioner of Minneapolis, that owing to his failure to recognize smallpox, and properly quarantine, the disease has spread throughout the city and into the state. Up to July 1 there had been 377 cases of smallpox in Minneapolis and 359 at various points in the state directly traceable to Minneapolis, it is said. Cases at Janesville, Wis., and Wahpeton, N. D., had also been traced to this source.

MISSOURI.

Dr. W. E. Minor and family have returned to Kansas City from their trip abroad.

Dr. Joseph M. Harris, of Sedalia, is candidate for coroner on the republican ticket.

Dr. Charles W. Fassett and Dr. William T. Elam, of St. Joseph, have returned from their European trip.

Dr. Robert W. Renwick, of St. Louis, was married to Miss Blanche G. Becker, of St. Charles, at Belleville, Ill.

The University Medical College, Kansas City, has taken out a permit to construct an addition to the college, to cost $7000.

Central Medical College, St. Joseph, has opened with an attendance of more than forty. The fall term of Ensworth Medical College will commence September 17.

Dr. Herman L. Nietert, superintendent of the City Hospital, St. Louis, maintains that the surgical division of the new hospital should be able to accommodate 98 acute and 237 chronic cases, and that two wards should be provided for the detention of male, and two for female criminals.

The new hospital, for which $258,000 has just been appropriated, will not suffice, says President McMath, of the board of improvements, St. Louis. He claims that it will do for emergencies, but will "come far short of providing hospital accommodations that will enable the temporary city hospital to be vacated."

NEBRASKA.

Dr. Andrew Crawford, of Omaha, has removed to Harrisburg.

Dr. Lee Van Camp assumed his duties as physician of Douglas County, September 1. Dr. W. J. Redfield Ryan has been appointed to the interneship in the county hospital made vacant by Dr. Van Camp's translation.

Omaha needs an emergency hospital, and Dr. Victor H. Coffman, health commissioner, is endeavoring to persuade the city council to erect one before the advent of winter. The necessity is the more urgent in view of the possibility of a smallpox epidemic.

NEW JERSEY.

Col. George P. Olcott, of East Orange, has been appointed a member of the State Board of Health, to succeed the late Dr. Gaunt.

The managers of the Children's Seashore Home in Atlantic City are endeavoring to keep the house open until the middle of September in order to accommodate the large number now present there. They, however, report that up to this time the funds are insufficient, and an additional $1000 is asked for.

Dr. R. H. Parsons, of Mount Holly, president of the local board of health, has made a formal complaint to the New Jersey State Board of Health regarding the contaminated water furnished the city. The drinking water has been condemned by the local physicians, and an epidemic of typhoid fever is feared. Several cases have so far been reported. The present water-supply is obtained from Ranocas Creek, and it has become so low that pools had to be dammed up in order to get a sufficient supply. It is now stated that in many of these pools the water has become stagnant.

NEW YORK.

Dr. Julius E. Haight, of Matteawan, has been appointed medical interne at the State Hospital for the Insane at Utica.

The Unadilla Valley Medical Association was entertained at dinner at New Berlin on August 14 by Dr. and Mrs. J. B. Noyes.

Dr. Reid Gilmore, of the Cohoes Hospital, has been appointed house physician at the Ellis Hospital, Poughkeepsie, and has assumed his new duties.

The library of Syracuse University College of Medicine has received a bequest of sixty bound volumes and a number of pamphlets from the professional library of the late Dr. S. G. Ellis.

The main building of the New York State Hospital for Insane Criminals at Dannemora will be opened very soon. It is about 300 by 40 feet, two stories high, and has about 300 cells. Dr. Albert B. Lamb, of Matteawan, will be superintendent.

The women of Syracuse University College of Medicine have organized, during the past year, Zeta Phi, the first and only women's medical fraternity in this country. They esteem it an honor that Dr. Elizabeth Blackwell has consented to become a charter member, she having been graduated from this college and the first woman to receive the degree of M.D. in America. The purpose of the fraternity is to bring the women of the medical profession into closer touch with one another.

Buffalo.

The medical department of the University of Buffalo will open its fifty-fifth regular session on September 24.

Both the mayor and the postmaster of Buffalo are practicing physicians. Dr. Conrad Diehl is mayor and Dr. Samuel G. Dorr is postmaster.

The German Hospital will soon be completed. It is situated in the geographical center of a very large German population, and is modern in all its arrangements.

Dr. Marcel Hartwig, recently elected president of the Buffalo Academy of Medicine, has offered a prize of $50 for the best essay on a scientific subject, to be presented during the season of 1900-1901 by a fellow of the academy.

The health commissioner is trying to abate the nuisance due to the wetting and consequent fermentation of more than 600,000 bushels of *grain* which were *in the elevators* recently burned. Many complaints of nausea, vomiting [illegible] diarrhea have been made by the men wor[illegible]nd the effects of the stench on infants [illegible] be most deleterious.

The health report for July shows the annual death-rate to be 15.60 per 1000. There were 31 deaths from consumption, 24 from cancer, 94 from cholera infantum, and 25 from nephritis. The total number of deaths was 458—226 male, 232 female—as compared with 486 for the same period last year. The number of deaths under 5 years was 201, and 52 were over 70 years of age.

Dr. Ernest Wende, health commissioner, has called the attention of the councilmen to the urgent necessity of a new and commodious quarantine hospital. The present structure has outgrown its usefulness. The necessity is the more urgent in anticipation of the cosmopolitan crowd which will assemble in Buffalo during the Pan-American Exposition and the great danger resulting from a possible outbreak of contagious disease at that time.

The New York State Pathological Laboratory has secured the services of Mr. Clowes, of London, England, as chemist. The laboratory, which has already attained an international reputation for its original research work on the etiology of cancer, is a part of the University of Buffalo, and its present location is in the Medical College building. The director and his assistants have been very much hindered in their work by reason of the crowded quarters. Recently a bequest of $25,000 was made for the erection of a new and modern laboratory building. Enough money has already been collected by private subscription to buy a suitable site, so that a new building is assured in the very near future.

New York City.

Dr. Virgil P. Gibney and wife have been visiting for several weeks with friends in various parts of Kentucky.

Dr. Louis L. Seaman, late major-surgeon of the 1st U. S. Volunteer Engineers, arrived in New York September 1, after a short European trip.

On September 5, Dr. Godfrey Rogers Pisek was married to Miss Rosalie Scranton Paul, daughter of the late Dr. F. M. Paul, of Belvidere, N. J.

The prison commission will formally urge the hospital commission to select Dannemora as the site for the proposed State Hospital for Consumptives.

Ten physicians and twenty trained nurses from Bellevue Hospital started for Galveston, September 11, to assist in caring for the sufferers from the storm which devastated that city.

Two of the public baths, both well patronized, have been moored all the season almost directly at the mouths of sewers. There is little excuse for such gross carelessness, but it is comforting to read that immediate steps were taken to close the baths.

At the annual meeting, on September 6, the following were elected officers of the prison commission: President, Lispenard Stewart, New York City; vice-president, Nelson Davenport, Troy. Secretary McLaughlin was elected for a third term.

Dr. Justin Herold, an authority on legal medicine, and editor of a text-book on that subject, has brought suit against the Metropolitan Street Railway Company for $100,000, for injury to his right leg, sustained in a collision between two street cars on May 31. It is alleged that the injury was such that he will be a cripple for life.

The isolation of consumptives in the hospital on Blackwell's Island, after the removal of the insane patients therefrom, is a plan which Commissioner Keller is endeavoring to carry through. This will place the present phthisis ward at Bellevue Hospital at the disposal of the authorities for other work.

A boy, 13 years old, died a few days ago in the Harlem Hospital, of hydrophobia, according to the *Medical Record.* He was attacked while playing in the street by a dog, which bit his nose off. The first symptom of rabies appeared seventeen days later. It is stated that this is the seventeenth death from rabies reported in this city during the past five years.

Cornell University Medical College is now established in its new building in First avenue, between Twenty-seventh and Twenty-eighth streets. The building is still unfinished, but will be ready by the time for opening of term, October 2. Thus far more than twice as many students have registered as had registered in the corresponding period of 1899.

A famous surgical case was that in which, twenty years ago, Dr. Lewis A. Sayre and the late Dr. Thomas Sabine removed a tuberculous and ulcerated nose, and built up an artificial nose from the middle finger of a man's hand. At the time of the first operation most of the physicians believed that the man was dying from tuberculosis, but he survived and eventually left the hospital with his queer substitute nose. He has recently turned up again at the hospital with advanced Bright's disease, and refuses to believe that physicians of the present day are powerless to help him again cheat death.

NORTH CAROLINA.

Dr. G. M. Van Poole, of Spencer, who was recently appointed an acting assistant-surgeon in the army, has sailed from San Francisco for Manila.

The Clarence Barker Memorial Hospital at Biltmore, which was erected by the sisters of Clarence Barker, is to have an endowment fund; it has been started by his cousin, George W. Vanderbilt. The hospital was formally opened on September 4.

A sanatorium for invalids of moderate means is to be established at Asheville. Several years ago Mrs. M. Franklin Mallory, of Vermont, went to Asheville, and was impressed with the advantages of the locality for consumptives and with the impossibility of any except the wealthy availing themselves of these advantages under the existing condition. She therefore started a small establishment at which those of moderate means could live at small expense. The project proved so successful that she has purchased a large tract of land, has erected some buildings and will erect others which will be ready before cold weather. She has interested many Eastern and Chicago people in her work, and has already collected more than $4000 for the equipment of the home.

OHIO.

Dr. David R. Schall, of Del Roy, has located near East Liverpool.

Dr. Henry A. Furniss, of Galena, has opened an office at Constantia.

Dr. Ephriam W. Love, of Fayetteville, lost his residence by fire on August 30.

Dr. James E. Murray, of Middletown, has sold his practice to Dr. L. S. Krauss, of West Carrollton.

The late Dr. David B. Chamberlain, of Toledo, who died intestate, left an estate valued at $7200.

Dr. C. F. Clark, of Columbus, has just returned from his vacation in Canada.

Drs. Edwin H. and Allen M. Chilcote have sold their practice at Bloomdale to Drs. Rolla R. and John M. Adams.

Dr. U. S. G. Deaton, of Thackery, has received an appointment as acting assistant-surgeon in the army and has started for the Orient.

Dr. John A. Wilkins, of Delta, was made surgeon-general of the Grand Army of the Republic at its recent encampment in Chicago.

Dr. Samuel C. Lindsay, of Salineville, has been appointed acting assistant-surgeon in the army and ordered to report at San Francisco for assignment to duty.

Drs. George C. Skinner and John Francis, of Hamilton, sailed for Europe on September 5. Dr. Mark Millikin will have charge of Dr. Skinner's practice in his absence.

Dr. Clarence E. Drake, whose term as house physician at Zanesville Hospital expired on September 1, has been succeeded by Dr. Charles N. Hanna. The latter's position as physician at the Muskingum county infirmary will be assumed by the former.

An attempt was made to assassinate Dr. J. V. Cleaver, of Akron, August 30. Six shots were fired at him, fortunately without effect. He has been very outspoken in his remarks against the rioters, and it is thought that some revengeful rioter may be responsible for the attempt.

Dr. William J. Means, of Columbus, considers that his reputation has been injured to the extent of $25,000 and has brought suit against the *Citizen* Publishing Company for that amount. The casus belli is that the defendant journal stated that Dr. Mean's "mania for operating" might cause the death of Ray Chalfant, operated on at the Protestant Hospital.

OREGON.

Dr. D. J. McFaul, of Heppner, has concluded to locate at Pendleton.

Dr. Rupert J. Chipman has moved from La Grande to a larger field of labor in Portland.

Good Samaritan Hospital, Portland, suffered slight loss from fire, September 5. For a time there was apparently great danger, but thanks to the discipline and resolution of the nurses and attendants, the patients were all removed to places of safety.

The health report of Portland for August makes an excellent showing. No smallpox has been discovered for three weeks, and the pest-house is empty. Six cases of typhoid fever, and these isolated, are the only cases of contagious disease in the city.

PENNSYLVANIA.

Dysentery in virulent form is prevalent in Yocumtown and vicinity. All measures have been instituted to prevent it from spreading, but so far without result. All the local physicians have been taxed to the utmost to give relief to the sick. The disease is said to attack both old and young alike. So far seventeen deaths have occurred.

Dr. Fred A. Utley, of Carbondale, will locate for practice in Blossburg.

Dr. Hermanus L. Baer was married to Miss Mabel McKinley, niece of the President, at Somerset, on September 12. Dr. Baer is a graduate of the Jefferson Medical College, Philadelphia, of the class of 1900.

Meadville City Hospital is to have an addition built to accommodate patients suffering from contagious and infectious diseases.

Dr. Thomas A. Miller, assistant physician at Allegheny County Home, Carnegie, returned to Bellevue, September 1, on the expiration of his term of office.

Titusville is to have a hospital, through the generosity of David McKelvey, who donated the ground and several thousand dollars in cash. The building will cost $15,000.

Smallpox, which has prevailed at Erie for some time past, has assumed a more virulent type. All the schools have been ordered closed. So far, one death has been reported.

Philadelphia.

Drs. S. Louis Ziegler and G. E. DeSchweinitz have returned from Europe.

Dr. John H. W. Chestnut, who died a short time ago in Alaska, left an estate of more than a quarter of a million dollars.

During the past week the number of persons who enjoyed the public baths was the largest in the history of the institution, there being 418,958 visitors; of this number 100,939 were men, 309,550 boys, 6421 girls and 1639 women.

The trials of those accused of violating the pure food and oleomargarin law were held in quarter sessions' court beginning September 1. The indictments for violation of the oleomargarin law numbered 18, and 53 were on trial for selling adulterated food.

The Free Hospital for Poor Consumptives, in its second annual report, shows that during the year 124 cases were cared for, mostly at St. Agnes' St. Mary's and Rush hospitals. The receipts for the year were $9724.65, and the disbursements, $6748.34, of which $6118.54 was paid institutions for the board of patients.

The new children's hospital of Germantown was dedicated with appropriate ceremonies on Monday, September 3. Mayor Ashbridge delivered the dedicatory address. The dispensary of this institution was opened in June, and so far has treated 800 persons. At present there is accommodation for 25 persons, but it is hoped to double the capacity at an early date. The staff of physicians includes Dr. Ammon A. Apple, Dr. Charles K. Rowe, Dr. Marmaduke F. Van Buren, Dr. S. A. Cadwallader and Dr. Alexander Frazier.

Considerable discussion has ensued between the members of the board of health, the post-office authorities and the physicians in attendance on the child who died of diphtheria last week and whose body lay exposed in a parlor for several hours. It was first believed that the physician was to blame for not promptly reporting the case and he was censured by the board. It now develops that the physician in question gave the letter to the mail-carrier, so that it would appear he should be absolved from blame. This throws the cause for delay on the post-office authorities.

The Dairy and Food Commission of Pennsylvania have instituted suit against the firm of Burns, Metzger & Co., spice manufacturers, on the charge of adulterating cinnamon, starches and other articles. Thirteen charges will be presented at the hearing. The articles that have been subjected to chemical analysis are said to show considerable adulteration, such as cayenne pepper, 25 per cent. adulteration, with husks or mustard seed; cloves, 20 per cent. adulteration; white pepper, 7 to 8 per cent.; African cayenne pepper, 12 per cent.; plain black pepper, 17 to 20 per cent., and 12 per cent. adulteration of cinnamon. This firm has a plant valued at $100,000 and their goods are handled by many of the smaller dealers of the city. It is believed that warrants will be issued for other dealers in these products.

SOUTH DAKOTA.

Dr. Carl Laason, recently from Norway, has opened an office in Hetland.

Dr. E. W. Dickenson, of Webster, has bought the practice of Dr. John J. Fanset, of Millbank, and will succeed him.

Dr. Herman H. Hanstein has succeeded Dr. Bufort D. Black as resident physician at Homestake Hospital, Lead. Dr. Hanstein has been practicing in Kenosha, Wis. Dr. Black will leave for Mexico in a few days.

TENNESSEE.

Drs. E. D. Mitchell, L. L. Meyer and Marcus Haase have been elected to vacancies on the staff of the Memphis City Hospital.

Dr. Walter F. Rochelle, of Jackson, has purchased the interests of his partner, Dr. John T. Warford, in the Rochelle-Warford Sanitarium, and will conduct the establishment in future.

The suit for $500 against the Knoxville Traction Co., brought by Dr. Alfred S. Horsley for injuries to his wife and the destruction of his buggy, has been decided in favor of the defendant company.

An amendment to the Memphis Board of Health ordinance was recently offered by the mayor and passed on its first reading without objection, which makes it compulsory on physicians to report to the department of health any cases of typhoid fever or tuberculosis seen by them in practice, as the law now requires in smallpox and scarlet fever. It also provides that violation of this law shall be considered a misdemeanor.

The Memphis Medical Society at its last regular meeting adopted a resolution that the president of the society appoint a committee of three whose duty it shall be to correspond with other medical societies of the state with a view to securing unanimity in an effort to have an amendment to the state medical practice act adopted at the last meeting of the general assembly, rescinded at the next meeting of this body. The amendment referred to exempts graduates of the medical schools of Tennessee from examination before the State [illegible] rd of Medical Examiners, to which graduates [illegible] must submit before they are granted [illegible] state.

TEXAS.

A new medical practice act has been approved by the State Medical Association, which provides for three separate boards of medical examiners, from the three principal schools of medicine, no member of any of which shall be a member of the teaching force of any medical school.

The reports of the ravages of the sea and storm in Galveston are as yet only vague, but it is reported that among the buildings destroyed are the John Sealey hospital, with most of the patients killed; Orphans' Home, casualties unknown, and St. Mary's Infirmary, only eight saved. The capacity of the John Sealey Hospital was 125 beds, and that of St. Mary's Infirmary, 350 beds.

UTAH.

Dr. Chauncy M. Benedict, of Salt Lake City, has been commissioned major and surgeon in the National Guard of the state.

The report of the Salt Lake City Board of Health for the week ended September 1, shows 23 births and 16 deaths. Seven cases of scarlatina, four cases of smallpox and two cases of typhoid fever were reported during the week.

VIRGINIA.

Dr. Hamilton P. Howard, of Alexandria, has been appointed surgeon at the Virginia Military Institute at Lexington.

Dr. Benjamin Harrison, of Richmond, surgeon of the state penitentiary, is seriously ill with typhoid fever in Clarke county. Dr. James P. Roy is acting as *locum tenens* during his illness.

WASHINGTON.

The Everett Hospital is so crowded that it is obliged to turn away patients.

Dr. Millard G. Hinkle has removed to Seattle from Stockton, Cal.

The city health officer of Everett, Dr. John R. Hathaway, claims that diphtheria is entirely stamped out. No new cases have been reported for a week, all who had the disease have recovered and quarantine has been raised.

WISCONSIN.

Dr. Eugene R. Herring, of Manawa, has removed to Shell Lake.

Dr. Gilbert E. Seaman has returned from the Philippines, resigned from the army, and resumed practice in Milwaukee.

Dr. John Hund, who has practiced medicine and conducted a German paper in Athens for several years, has moved practice and paper to Marathon City, where he has entered into partnership with Dr. P. J. Taugher.

Dr. Frank C. Studley, of Milwaukee, has leased a six-acre tract of land on the upper Milwaukee river, for a sanatorium. The buildings now on the ground will be remodeled and enlarged and will be ready for use October 1.

An outbreak of typhoid fever, mild in character, is reported in the northwestern part of Milwaukee. Twenty cases have occurred, and two-thirds of these were reported in one day. The health department is endeavoring to ascertain the source of infection.

CANADA.

Dr. Morrison, a graduate of Queen's, Kingston, has been appointed house surgeon of the New York Polyclinic Hospital.

Dr. Haig, of Campbellford, has been appointed superintendent of the Kingston General Hospital, and will begin his duties on October 1.

Montreal is going ahead with its crematory. Arrangements have been made to accept Sir W. C. Macdonald's offer to build and endow the institution.

Dr. Gillis, medical superintendent of the Brandon Asylum for the past four years, will be removed from that office by the Macdonald government of Manitoba.

Dr. Lamont, Winnipeg, has returned to that city after finishing a trip of 2000 miles of Indian medical inspection on the Saskatchewan river and lakes Winnipeg, Manitou and Winnepegosis.

The province of Quebec is now practically free from smallpox. The last case was disposed of about a month ago. A few cases of scarlet fever still exist, but they are well under control.

Dr. E. Prose, late of the Manitoba Medical College, writes from Cape Town, August 1, saying that Dr. A. B. Bing, a fellow-graduate in the same contingent, had died of enteric fever at Johannesburg.

Dr. A. J. Douglas has been selected for the position of health officer for Winnipeg. The former inspector, Dr. Inglis, severed his connection with the department as a result of the recent smallpox controversy.

The New Brunswick Medical Society held its annual meeting at St. John on July 17; the following officers were elected; President, Dr. G. T. Smith, Monckton; vice-president, Dr. S. C. Murray, Albert; treasurer, Dr. G. G. Melvin, St. John; secretary, Dr. J. H. Scammell, St. John.

TO PREVENT CONSUMPTION.

The first annual meeting of the Ontario Association for the Prevention of Consumption convened in the City Hall, Toronto, on September 4, under the presidency of Dr. James Thorburn of that city. The draft constitution was submitted to the meeting and adopted. It defines the objects of the Association to be the collection and dissemination of information as to the contagious character of tuberculosis, and as to the methods and measures necessary for public protection; the education of public opinion; to encourage co-operation of governments, municipalities and philanthropic institutions to provide sanitoria. The fee for ordinary members was placed at $1. Provision was also made for the formation of branch associations on condition that they transmit to the treasurer one-fifth of the sums received as membership fees. Dr. James Thorburn was re-elected president and Dr. P. H. Bryce corresponding secretary.

CIVIC HEALTH REPORT, MONTREAL.

The annual report of the civic health department has been printed for 1899 and embraces a pamphlet of 132 pages. The total number of deaths during the year was 6871, including 692 illegitimate children and premature births, making a proportion of 24.51 per 1000 of the population. This is an increase of 3.85 per thousand of the population, including 1.86 per 1000 due to illegitimates and premature births over 1898. The total number of illegitimate births was 522. There were still remaining on Dec. 31, 1899, 4913 privy pits in Montreal as against 8891 in 1891. In the civic hospital for contagious diseases, 359 patients were treated, 217 for diphtheria, and 140 for scarlet fever and two for measles. Of the total number 151 were children under five years of age. The death-rate was 9.41 per cent. Over 1500 examinations were made in the bacteriological laboratory by Dr. J. E. Laberge, who is in charge of this department. The total appropriation for the department was $117,383 and the outlay $114,929. Dr. Nolin vaccinated 962 people, Dr. Daze 480 and Dr. Coyle 238, making a total of 1772. There were 1878 cases of contagious diseases in the city during 1899, made up as follows: Diphtheria, 678; diphtheric croup, 54; croup, 35; scarlatina, 568; typhoid fever, 260; measles, 270; varioloid, 18. Of these cases 706 were children under five years of age. The births numbered 9655. The birth-rate was 48.45 amongst French-Canadians, 20.81 amongst other Catholics and 22.29 amongst Protestants. The surplus of births over deaths was 2784.

MARINE-HOSPITAL NOTES.

LUSTIG'S SERUM.

In a report to the surgeon-general, U. S. Marine-Hospital Service, Dr. Geddings refers as follows to Lustig's serum, reference to which is occasionally made in the medical journals. Lustig's serum is for the prevention and cure of plague and is the serum of a horse immunized by toxins of plague precipitated after a particular method. Lustig and Galeotti have demonstrated that the toxins of plague belong to the class of nucleins and they prepare it by subjecting cultures of the bacillus pestis to the action of a 0.6 per cent. solution of caustic soda or potash. In three or fours days the bacilli are entirely dissolved and the nucleins set free are precipitated as usual by acetic acid. The substance is then collected and used for the immunization of horses, it being necessary to use a weak alkali, as sodium carbonate, for their solution. The toxin thus precipitated has about the same strength as ordinary plague toxins precipitated by ammonium sulphate. An effort was made in the Hygienic Laboratory to make practical use of this method, but it was found impracticable, owing to the very small quantity of product obtained by following the method as described by Lustig. The serum of a horse immunized with this toxin would probably have about the same antitoxic or curative value as a serum prepared by the ordinary methods, neither more nor less.

WHAT WAS DONE BY CONGRESS AT ITS LAST SESSION FOR THE MARINE-HOSPITAL SERVICE.

The continued growth of the Marine-Hospital Service, and the extension of its duties to Cuba, Porto Rico and the Philippines, made it necessary for Congress to be liberal in meeting the demands of the Service as explained to it by the surgeon-general. The office force of the bureau at Washington was increased by the addition of five new clerks, making a total of twenty-two clerks distributed among the seven divisions of the office under its reorganization. All these divisions are under medical officers, excepting one, and are as follows: 1, Division of marine-hospitals; 2, division of domestic quarantine; 3, division of insular and foreign quarantine; 4, division of sanitary reports and statistics; 5, division of personnel and accounts; 6, miscellaneous division, and 7, chief clerk. The hygienic laboratory, although not a part of the surgeon-general's office proper, is located in the same building, and the director is available for conference on many matters relating to scientific determination regarding infection and disinfection. For the Marine-Hospital Service, proper, Congress appropriated $8000 for a new surgeon's residence at San Francisco, and $16,000 for completion of pavilion yards at the marine hospitals at Boston, Cleveland, Detroit, Mobile and St. Louis, and made the general fund available for repairs and improvements. For extending and improving the national quarantine stations the sum of $359,050 was appropriated, including $131,000 for the San Francisco quarantine, $125,000 for the Florida quarantine stations—made necessary by the transfer of Tortugas to the navy department for a coaling station—$30,000 for the Savannah station, $23,750 for San Diego, $8000 for the Reedy Island, Delaware River, station, and smaller sums for the other quarantine stations at Delaware Breakwater, Cape Charles, Virginia; Brunswick, Georgia; Gulf quarantine, Ship Island, Miss., and South Atlantic quarantine Blackbeard Island, Ga. For the annual running expenses of the national quarantine stations, including those in Porto Rico, the sum of $235,000 was appropriated. Laws were passed placing the whole of the quarantine service of Porto Rico and of the Hawaiian Islands under the Marine-Hospital Service and appropriating $75,000 for the maintenance of the quarantine service in Hawaii. For the fund for the prevention of the introduction or spread of cholera, yellow fever, smallpox and plague, known as the epidemic fund, $500,000 was appropriated. The Marine-Hospital Sanatorium for the treatment of tuberculous patients of the service received the sanction of Congress after the whole scheme had been laid before a committee of the Senate, by being included in one of the appropriation bills for public buildings. A bill to increase the efficiency of the National Quarantine Service, providing penalties for infraction of the national quarantine laws, etc., passed the Senate and was reported on favorably in the House of Representatives, and will doubtless pass at the next session, there being no objection to it.

PLAGUE SITUATION IN GLASGOW, SCOTLAND.

In continuation of the same subject in issue of September 8, 1900: P. A. Surgeon A. R. Thomas, of the United States Marine-Hospital Service, now in Glasgow, reports, on September 7: "No new cases for three days. Conditions good." He has been directed to classify the freight leaving Glasgow, certain articles to be passed without inspection, other articles to be inspected and passed on a certificate showing non-infected origin, a third class to be entirely passed after disinfection, and a fourth class to be entirely debarred. Asst.-Surgeon John F. Anderson, after arriving in London, was ordered to Liverpool to carry out the same instructions as were issued to Dr. Thomas with regard to passengers and freight coming from Glasgow for shipment at Liverpool. Arrangements are being made for the ship's surgeons on transatlantic lines while plague prevails in Glasgow to take the temperature of all steerage passengers and crew the day before arrival in the United States for the information of the quarantine officer at the port of arrival. The Canadian government has requested that Dr. Thomas inspect all vessels leaving Glasgow for Canadian ports, until the arrival of their own representative in Glasgow, and this request has been granted. On September 1, the surgeon-general detailed an officer to confer with the quarantine officer of New York, as to the measures he was taking or proposed to take other than those laid down in treasury regulations, New York being the most important port in the United States having commerce with Glasgow. At a subsequent conference with Health Officer Doty at the bureau in Washington, it was agreed that he would continue what he had already begun; viz.; the taking of temperatures of all the steerage passengers and crew of transatlantic liners from Glasgow and other ports whence Glasgow passengers might take passage to the United States, and setting aside for further examination all persons who show any rise in temperature, such persons being submitted to glandular examination, as well as observation for a period of time. Orders were issued to all officers of the Marine-Hospital Service on quarantine duty and requests to all state and local health officers at ports where there is passenger traffic, to put in effect the same practice. The taking of temperatures as part of the ordinary inspection of vessels arriving at quarantine is now considered a very essential feature in quarantine administration. Mild cases of almost any infectious disease can "brace up" for the ordinary quarantine inspection and pass it, but this cannot be done if the temperatures are taken. The New York quarantine has been employing this practice for some time with regard to passengers from Habana, and the surgeon-general of the Marine-Hospital Service has instructed his officers at National quarantine stations to the same effect.

Correspondence.

Dr. Jacobi's Address and "Sectionalism."

New York City, Sept. 10, 1900.

To the Editor:—As a reply to the criticisms on some remarks delivered by me before the Thirteenth International Medical Congress, August 6, permit me to say to Dr. J. Wilkinson Jervey[1] that nothing is further from me than to harbor or try to create any sectional feelings. I deplore to have given him any such impression. The Doctor says himself that, "It is not the actual expression to which the Doctor gave tongue that is objectionable, but the inferential and insinuating quality of his remarks addressed to those good people across the water who know us not, save as existing, and who quite naturally accept the imputations and inferences." In this fear, Mr. Editor, I am happy to say, the Doctor is mistaken, and I feel sure he will be pleased to learn, in spite of his objections to some—shall I say unguarded?—expressions of mine, and your readers will learn with satisfaction, that not only was my address applauded by the Americans present, but that, from Lannelongue and Virchow down, the whole audience felt and appreciated (and expressed their appreciation) the claims of American medicine and medical men to recognition as full equals in the co-operative struggles of our international science and art. When I had finished, and ever since, I had the impression that I had simply continued in my life-long efforts to improve the estimation in which the American profession was held in Europe—both as a trifling proof of my gratitude for the endless acts of kindness bestowed on me personally by that profession, and as a demand of testimonial justice. Sad if I should have made a grievous mistake. But allow me to say that such references as I have been able to see in the medical and the lay press of Europe, justify that belief of mine. Besides, I refer you to the concluding paragraph, and to many others, of my address, as my defense—if defense there must be after my fellowship of nearly half a century in the profession, and after forty years of teaching and of other public work.

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[1] The Journal, p. 638.

In your editorial remarks[2] you "regret the semi-apologetic accent of some portions of the address in regard to our national standing in medicine and science. Foreigners are condescending enough at present, and we naturally prefer such an utterance as that of Osler, who saw in the future of America a scientific Mecca, rather than even an equivocal admission of real or fancied national defects, in such an address." I think you refer to his address on the importance of post-graduate study, in which he says: "To students who wish to have the best that the world offers, let me suggest that the lines of intellectual progress are veering strongly to the West, and I predict that in the twentieth century the young English physicians will find their keenest inspiration in the land of the setting sun." In my address I say, "The time is fast approaching, I hope, when your students and doctors will travel with the sun to enjoy the light of the West." That does not exactly look like a "timid presentation" of our claims. And again, "There was a period when they asked: Who reads an American book? American books are now read the world over by privileged men, and even translated. Verily, verily, the time should come speedily when they will ask: Where is the ignoramus that does not know American literature?" Such are my convictions on that point, and I have quietly tried to turn the "condescension"—so that you call it—of European public opinion in different ways these forty years.

Lately, I received many letters remonstrating with one or the other view expressed in my address. Let it be understood that I pronounce my own opinions when I am speaking publicly; that the meeting before which I appeared was international, not national or European only, and finally that I can not enter into personal correspondence, or replies, or as a daily newspaper has it, "quarrels." But I may be permitted to say —I am referring to some opinions as expressed in my address, and criticised—on behalf of those who will not or can not read the address in full; that I am still of the opinion that we should study the Pharmacopeia of the United States and the formulary of the American Pharmaceutical Association more than the price-lists of the wholesale druggists, whom we allow to do part of our thinking; that we can find better employment than in discussions with their and publishers' agents; also that our 156 medical schools should be reduced to 25 and attached to a university and furnished hospitals of their own, and our 200 or 300 medical, or alleged medical, journals to 50; that those which are founded by professional men or by the profession at large, are preferable for many reasons, to those published in the interests of a publisher, a manufacturer or of a proprietary medicine owner; also that syndicates of medical men should see to the production and consumption of medical literature. I am still of the same opinion that I expressed in my address in regard to consultations with sectarians; and I still hold the same political views that I was rebuked for in an anonymous letter. Finally, I am still of the opinion that we should participate, not as sanitarians only, in the political and municipal affairs. Let me thank you, Mr. Editor, for the courtesy you extended me in opening your journal to these lines. Very respectfully yours, A. JACOBI, M.D.

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[2] See p. 628.

A CIRCUS traveling through the province of Quebec, Canada, introduced the name of Dr. Sabourin, of Saint-Jean, into a song on the program. The doctor sued the company for $5000 and was awarded $500 by the local courts, the *Revue Méd.* reports.

Book Notices.

THE MEDICAL DIRECTORY OF NEW YORK, NEW JERSEY AND CONNECTICUT. Price, $2.50. New York: The New York State Medical Association (Dr. Ogden C. Ludlow, secretary, 2309 Seventh avenue). 1900.

The Directory of the physicians of New York, New Jersey and Connecticut is a good illustration of what a state society can do to benefit its members and the profession, without depending upon commercial enterprise outside of its ranks. This directory bears evidence of being gotten up with the idea of giving all the information possible, so that it may be valuable to its possessor, rather than to make it a profitable commercial enterprise. The first page of the directory, on which is commenced a Street List of Physicians of Manhattan and Bronx, indicates this. It may not be often that one desires to know what physicians live on a certain street, but sometimes this information is decidedly important. The street index is given for all the large cities and boroughs. Following the street list is a list of physicians of Manhattan and Bronx, arranged alphabetically. Besides the address, there is also given the college and year of graduation, office hours, positions held, and to what society or societies each is affiliated. The list of Brooklyn physicians is printed on a different colored paper, to facilitate easy and quick reference—a most excellent idea. Following that of Brooklyn is a list of the physicians of the boroughs of Queens and Richmond. After this comes a vast amount of information about matters medical in Greater New York, such as the department of Public charities, of corrections, etc.; the various courts of justice and the civil boards; ordinances relating to physicians, midwives, etc.; list of hospitals, dispensaries, etc.; list of the various medical societies of Greater New York, with their officers, time and place of meeting, etc., and a list of registered pharmacists. The same general information is also given regarding other large cities in the three states covered. The homeopaths and eclectic physicians are listed separately, the name and address only being given. The whole makes a book of great value, especially to the physicians of the states it includes, and too much praise can not be bestowed on the committee for the successful way in which they have accomplished their task. The amount of labor it entailed can be appreciated only by those who have attempted such work. Every physician in New York, New Jersey and Connecticut should obtain a copy of the book, not only for its intrinsic value, but to encourage such an enterprise on the part of physicians.

FRACTURES. By Carl Beck, M.D., visiting surgeon to St. Mark's Hospital; to the New York German Poliklinik, etc. With an appendix on The Practical Use of the Röntgen Rays. 178 illustrations. Price, $3.50. Philadelphia: W. B. Saunders & Co. 1900.

In the introduction to his book, the author, after giving a brief historical description of the Röntgen rays, calls attention to their great value in the management of fractures, and mentions those in which the use of the rays is especially valuable as a diagnostic measure. By their use accuracy takes the place of ignorance and doubt, and painful manipulations cease to be necessary for diagnostic purposes. In Part I, is considered the classification of fractures, and the general process of repair and treatment. In Part II, is taken up in detail the management of the special fractures. The author's method of presenting the subject is simple, practical and easy of comprehension. There is a liberal supply of illustrations to graphically assist the reader in a thorough understanding of the text. The common, and many of the rare fractures, are represented skiagraphically. Practically all of the illustrations are new.

If the author had given as a subtitle "A Plea for the More General Use of the Röntgen Rays in the Diagnosis and Treatment of Fractures" it would have better described the character of his book. The preface reads as though the book was devoted to the Röntgen rays; the introduction is on the use of the rays, and an appendix of over fifty pages is on the practical use of the Röntgen rays. The latter, by the way, gives much valuable information in regard to the kind of battery to use, and its management. The author is evidently an enthusiastic believer in the great value of the X-rays, even in its present development. His enthusiasm convinces him that "exploratory laparotomy for suspected lithiasis will hardly be necessary any more," a conclusion which all surgeons are not yet ready to endorse. The author is not too enthusiastic, however, and his book can not but do good in extending the use of the Röntgen rays in the management of fractures.

Deaths and Obituaries.

Jacob M. DaCosta, M.D., died at his residence at Villa Nova, near Philadelphia, from heart disease, September 11, at the age of 67 years. He was born in the Island of St. Thomas, West Indies, received his literary and classical education in Germany and then began his medical studies at the Jefferson Medical College, Philadelphia, his preceptor being Professor Mütter. He was graduated in 1852, and after spending two years in the hospitals and medical schools of Paris and Vienna, he returned to Philadelphia and established himself in practice, devoting himself especially to diseases of the heart and lungs. His contributions to medical literature have been large and varied, many of his works, such as "Medical Diagnosis," being standard. He was for some time attending physician at the Episcopal Hospital and later at the Philadelphia and Pennsylvania hospitals. In 1864 he was appointed lecturer on clinical medicine at his alma mater, and eight years later was chosen to fill the chair of theory and practice of medicine in that institution. In 1895 he was made president of the Philadelphia College of Physicians. At the time of his death he was professor emeritus in Jefferson Medical College and a trustee of the University of Pennsylvania.

William S. Ward, M.D., a graduate of the College of Physicians and Surgeons, New York, in the class of 1849, died at Newark, N. J., September 1, at the age of 79. He had practiced medicine in Newark for more than fifty years. During the Civil War he was stationed at the Ward General Hospital, Newark, and there achieved a reputation for administrative ability. He served on the staff of St. Michael's and St. Barnabas' Hospitals and was attending physician at the Protestant Foster Home for more than thirty years.

Henry D'Huy, M.D., died at his home in Kansas City, August 28, at the age of 80 years. He was born in Hanover, studied medicine in Dresden and at the University of Leipsic. He was graduated in 1843, and came to America in the same year, locating in Newburg, N. Y. In 1856 he located in Winterset, Ia., where he practiced until the outbreak of the Civil War, through which he served, first as a private, then as acting assistant-surgeon. He moved to Kansas City in 1889.

Josiah S. Bowen, M.D., died at Mt. Washington, Md., on August 29, of heart disease, aged 68 years. In 1854 he went with a party of gold seekers to California, and later studied medicine in the University of Maryland, where he graduated in the class of 1864. He located at Mt. Washington, and practiced there nearly forty years.

Frank Stephen Milbury, M.D., a graduate of the Cincinnati College of Medicine and Surgery, in the class of 1888, died in his 44th year at his home in Brooklyn, N. Y., August 29. He was born in New Brunswick, became a dentist and practiced in Nova Scotia, and afterward in Mexico. He then took an extended post-graduate course in Europe and established himself in Brooklyn. At the time of his death he was a member of the American Medical Association and several other societies, besides being identified with Bedford Hospital and New York Eye and Ear Infirmary.

Jeremiah P. Eggman, M. D., died at Mullanphy Hospital, St. Louis, Mo., from the effects of heat exhaustion, August 25, at the age of 31 years. He was a native of St. Louis, graduated in pharmacy, then entered the medical department of Washington University and was graduated in 1892. He practiced until the outbreak of the Spanish-American war, when he went to the front with the 1st Missouri Infantry, U. S. V. At the termination of the war he resumed practice in St. Louis.

Easton Burchard, M.D., a graduate of the Kentucky School of Medicine, Louisville, 1889, assistant-surgeon U. S. Army, died of dysentery on September 2 aboard the transport *Grant* at Nagasaki. He was a native of Osage County, Missouri, and was a resident practitioner of Kansas City. He received his appointment as first lieutenant and assistant-surgeon, 40th Volunteer Infantry, August 17, 1899, and in October of that year embarked with his regiment for the Philippines.

D. V. Dean, M.D., died September 3 in the City Insane Asylum, St. Louis, at the age of 70 years. From 1876 till 1886 he was superintendent of the City Hospital. He was one of the pioneer bacteriologists of the West and served as a trustee and as professor of physiology in Beaumont Medical College. In 1896 evidences of mental disease became noticeable and in December of that year he was committed to the insane asylum.

J. Travis Taylor, M.D., a graduate of University College of Medicine, Richmond, Va., in the class of 1896, died in that city after an operation for appendicitis, August 31, at the age of 26 years. The Richmond Academy of Medicine held a largely attended special meeting September 1 and passed resolutions of sorrow and regret over the early death of so promising a member of the fraternity.

Joseph E. Traynor, M.D., who was graduated from the medical department of the University of Pennsylvania in 1900, and afterward passed the examination of the State Medical Examining Board of Delaware, died August 28 at Wilmington, Del., from consumption, after a long illness, at the age of 23 years.

William O. McDowell, M.D., died at Scotland Neck, N. C., August 15, at the age of 43 years. He was graduated from the University of Pennsylvania in 1876 and commenced practice in Union, but moved to Scotland Neck a few months later, and there practiced until 1895, when his health became impaired.

John G. Mennie, M.D., for many years well known as a practitioner of medicine in Toronto, Ontario, died at his father's residence in Fergus, August 24, after a long illness, from Bright's disease. He was born in 1854, and was graduated by the medical faculty, University of Toronto, in 1882.

Edwin H. Amoss, M.D., of St. Paul, Minn., was found by a policeman in a stupor, due to intoxicants or drugs, to the use of which he was addicted, and died in the City Hospital, August 27. He was a graduate of the University of Michigan medical department, in the class of 1884.

Joshua A. Gore, M.D., was found dead on a sandbar in the Missouri River at St. Joseph, Mo., September 1. It is supposed that he committed suicide. He was born in 1826, had lived in St. Joseph since 1861, and was one of the oldest practitioners in that city.

John K. McLeod, M.D., died at his residence in Moss Point, Miss., August 29, aged 60 years. He was a graduate of the medical department of Tulane University, New Orleans, La., in 1868, and had practiced for more than thirty years in Moss Point.

Henry B. Rupp, M.D., died at Hummelstown, Pa., August 27, at the age of 64 years. He was graduated from the department of medicine of the University of Pennsylvania in 1861, but retired from practice on account of ill-health, in 1885.

Richard I. Duckett, M.D., died suddenly of heart disease at Bakersville, Md., August 31, aged 56 years. He was graduated from the University of Maryland in 1866, and had practiced in Bakersville for twenty years.

Thomas H. Buck, M.D., of Leetown, W. Va., died suddenly from apoplexy, at Luray, Va., August 29, at the age of 76 years. He was a graduate of the University of Louisville medical department, in the class of 1848.

Thomas E. Evins, M.D., major and surgeon 49th U. S. Volunteer Infantry, died from fever in the Philippine Islands. He formerly resided in Birmingham, Ala.

Miscellany.

The Pasteur Institute of India was opened August 9 at Kasauli. Previous to that soldiers bitten by dogs were sent to Paris for treatment.

Famine in India.—There are over 6,250,000 people in receipt of relief. According to the *Lancet*, 3,500,000 are on relief works, and the remainder are receiving gratuitous relief.

Copies of The Journal Wanted.—The following numbers of The Journal are wanted to complete volumes for a member: Vol I., Nos. 1 and 16; Vol. II., No. 14; Vol. III., Nos. 4, 11, 25. Twenty-five cents each will be paid for these at the office of The Journal.

Sanatoria for Contagious Diseases Not Allowed.—A wealthy young woman, Mdlle. Noualheir, has established a refuge for incurables at Limoges. She makes periodical visits to Paris to collect inmates and brings twenty at a time, usually persons in advanced stages of consumption. The *Gaz. Méd. de Paris* states that the local authorities have found that tuberculosis has doubled in the vicinity of her refuge and have taken measures to close it and prohibit the maintenance of any sanatorium for contagious or epidemic diseases, public or private, inside the city limits.

Societies.

Coming Meetings.

American Association of Obstetricians and Gynecologists, Louisville, Ky., Sept. 18-20.

Medical Society of the State of Pennsylvania, Wilkesbarre, Sept. 18-20.

Medical Society of the Missouri Valley, Council Bluffs, Ia., Sept. 20.

American Electro-Therapeutic Association, New York City, Sept. 25-27.

American Public Health Association, Indianapolis, Ind., Oct. 22-26.

Golden Belt Medical Society, Enterprise, Kan., Oct. 4.

Idaho State Medical Society, Boise, Oct. 4-5.

Utah State Medical Society, Salt Lake City, Oct. 4-5.

Wyoming State Medical Society, Cheyenne, Oct. 9-10.

Mississippi Valley Medical Association, Asheville, N. C., Oct. 9-11.

Iowa State Association of Railway Surgeons, Des Moines, Oct. 11-12.

Vermont State Medical Society, Rutland, Oct. 11-12.

Tri-State Medical Society of Alabama, Georgia and Tennessee, Chattanooga, Tenn., Oct. 11-13.

New York State Medical Association, New York City, Oct. 16-18.

Medical Society of Virginia, Charlottesville, Oct. 23.

The Louisville Society of Medicine met at the Galt House on September 3 and elected the following officers: President. Dr. Edward Speidel; vice president, Dr. J. R. Morrison; secretary, D. W. O. Green, and treasurer, Dr. William Jenkins.

St. Joseph County (Ind.) Medical Society met in the office of Dr. Jacob W. Hill, South Bend, August 28, Dr. James A. Varier presiding. Cases were reported by Drs. Frank M. Sawyer, George W. Van Benschoten, Jacob W. Hill and Harry F. Mitchell.

Hampden County French Medical Society.—The Canadian physicians residing in the Holyoke district in Massachusetts have organized a society with the above title, to hold quarterly meetings at Springfield. H. E. Chaput, M.D., was appointed secretary.

The Perry County (Ind.) Medical Society held its regular monthly meeting at Tell City, September 4. Papers were read by Drs. F. Anson Evans and C. M. Brucker, of Tell City, on "Consumption," and a general discussion of the subject, by the members of the society, followed.

The Medical Society of City Hospital (St. Louis) Alumni met in the Board of Education rooms September 6. Dr. Given Campbell presented patients illustrating chorea and tabes dorsalis, and Dr. Clarence Loeb exhibited pathological specimens of aneurysm and arteriosclerosis.

The Polk County (Ia.) Medical Society held a meeting in the club rooms of the Kirkwood Hotel, Des Moines, September 4. Papers were read by Dr. Charles E. Currie, of Des Moines, on "The Therapeutics of Shock," and Dr. H. A. Minassian, of Des Moines, made a clinical report on herpes zoster.

The Ontario Anticonsumption League met at the city hall, Toronto, Ontario, on September 4. The officers of the league are: Sir Oliver Mowat, honorary president; James Thorburn, M.D.. president; P. H. Bryce, M.D., corresponding secretary; Rev. C. S. Evy, B.A., D.D., organizing secretary, and L. Brock, M.D., of Guelph, treasurer.

The Contra Costa County (Cal.) Medical Society held a meeting at Marinez, August 22. Dr. J. S. Riley, of Port Costa, president; Dr. J. T. Breneman, of Martinez, first vice-president; Drs. George Mackenzie and Francis F. Neff, of Concord, secretary and assistant-secretary; Dr. Jerome T. Gardner, of Brentwood, and Dr. Claude R. Leach, of Walnut Creek, were present. The president read a paper and Drs. Mackenzie and Leach presented specimens.

Tri-State Medical Society of Alabama, Georgia and Tennessee.—As the time of meeting of this society was the same as that selected by the Mississippi Valley Medical Association, the Tri-State Society has changed its date to October 11-13. A rate of one fare for the round trip will prevail at that time to the reunions of the Army of Cumberland and the Spanish-American War veterans. Tickets will go on sale Oct. 8 and will be good until Oct. 13.

The Reading (Pa.) Medical Association met in the Raser building, August 29. Dr. S. Banks Taylor read the address of the retiring president, John K. Seaman. The following officers were elected: Dr. Seymour T. Schmehl, president; Dr. John K. Seaman, first vice-president; Dr. S. Banks Taylor, second vice-president; Dr. Louis L. Thompson, secretary and curator; Dr. Oan J. Thompson, treasurer, and Dr. Abraham S. Randenbush, representative to the Reading Hospital.

The Mason County (Ky.) Medical Society met at Maysville, August 29, Dr. John A. Reed, of that city, being host. Dr. Smith read a paper on "Post-Partum Hemorrhage"; Dr. Thomas E. Pickett, of Maysville, one on "The Surgery of Placenta Previa, With Notes of Two Cases: An Effective Method of Meeting a Formidable Complication"; Dr. A. N. Ellis presented a case of traumatic iridectomy. The next meeting will be held at the office of Dr. Amos G. Browning, September 26.

The Belmont County (Ohio) Medical Society held its regular bi-monthly meeting, August 30, at the Windsor Hotel, Bellaire. Dr. D. L. Marsh reported a case of incipient caries of the spine; Dr. Dexter W. Boone, of Bellaire, one of traumatic tetanus, with operations, and Dr. Ellis C. Cope, of Barton, one of valvular disease of the heart. Dr. J. Park West, of Bellaire, made a report of the recent meeting of the American Pediatric Society, and Dr. Alexander H. Korner, of Woodsfield, read a paper on "Eye-Strain as a Factor in Epilepsy." The meeting was followed by a clinic.

The Kankakee Valley District Medical Society met at Hammond, Ind., September 11, under the presidency of Dr. I. B. Washburn, of Rensselaer, Ind. After the president's address, papers were read by Dr. George E. Hoffman, of Rochester, Ind., on "Internal Causation of Disease"; Dr. D. J. Loring, of Valparaiso, Ind., on "Inflammation and Its Treatment"; Dr. W. H. Thompson, of Winamac, Ind., on "Smallpox"; Dr. J. H. Hockins, of Whiting, Ind., on "Treatment of Burns," and Dr. George W. Van Benschoten, of South Bend, Ind., on "The Relation of the General Health to the Eye and Its Diseases."

American Academy of Railway Surgeons.—The seventh annual meeting of the academy was held in the State Senate Chamber, St. Paul, Minn., September 5 and 6, under the presidency of Dr. Charles A. Wheaton, of St. Paul. Fifteen papers were read and freely discussed. Twenty new fellows were elected. The officers for the ensuing year are: President, Dr. D. S. Fairchild, of Clinton, Ia.; first vice-president, Dr. W. L. Estes, of South Bethlehem, Pa.; second vice-president, Dr. W. J. Mayo, of Rochester, Minn.; secretary, treasurer and editor, Dr. T. B. Lacey, of Council Bluffs, Ia. Chicago was selected as the place for holding the next annual meeting, the date to be fixed by the executive board.

New York State Medical Association.

FIRST DISTRICT BRANCH.

President, Charles H. Glidden, M.D., Little Falls.

The annual meeting of this Branch Association was called to order by its president at the Butterfield House, Utica, on the afternoon of Sept. 4, 1900.

PURE MILK FOR CITIES AND VILLAGES.

DR. CHARLES H. GLIDDEN thought it would be feasible in small cities to have the milk brought to a central station, where, after having been pasteurized or sterilized, and properly bottled, it would be placed for distribution in the hands of men who had nothing whatever to do with stables. The milk should be delivered only by such persons, thus avoiding one common and serious source of contamination. All milk should be thoroughly and slowly aerated as soon as taken from the cow, and before cooling, and this process should be continued until all animal odor had been removed. It is best conducted in a cheap, well-ventilated building remote from the stables. The ceilings of the stables should be made of well-joined timber, and should be whitewashed at least twice a year. The venders of milk, in the opinion of the speaker, should not be interested at all in the dairies, the milk being bought outright.

DR. C. B. TEFFT, Utica, said that few subjects come before the physician that give so much trouble as the regulation of the dietary of the sick. He was coming to feel that milk is almost a poison to the average person. He was pretty well satisfied that a large proportion of the milk sold in Utica had some preservative in it, and he did not believe there was a gallon of milk in that city which did not give an acid reaction at the time it was delivered to the consumer. In certain sections of the country formaldehyde was very commonly employed as a preservative of the milk. There were many breweries in his section, and it was reasonable to suppose that the grain from these establishments was fed to the cows. The state law merely says that fermented articles must not be fed to cows, yet it was well known that although this grain is said to be given to the cattle before fermentation has occurred, it was commonly mixed with cornmeal and allowed to stand until bubbles of gas could be seen on the surface of the mixture at the time of feeding. This would seem, then, to be merely an evasion of the law.

DR. LEON T. LEWALD, New York City, said that more emphasis should be laid on the great importance of cleansing the udder of the cow and on having the milker's hands scrupulously clean. Clean milk, used within a few hours, was usually a safe food, there being, as a rule, only a few bacteria, and these generally harmless ones under these conditions. Just as in surgery one could succeed largely through asepsis as opposed to antisepsis, so in connection with the milk-supply it was possible to have a safe article of food if the necessary precautions to insure cleanliness were observed. At the present day one was able by the application of the tuberculin test to properly control tuberculous disease among cows.

PLAN FOR THE REORGANIZATION OF THE NEW YORK STATE MEDICAL ASSOCIATION.

DR. FREDERICK HOLME WIGGIN, of New York city, was present to explain the new scheme of reorganization of the association. He began by saying that physicians as a class had very little influence with politicians, public officials and laymen generally. This fact had been brought out with painful clearness in connection with the efforts that had been made to regulate the abuse of medical charity. Physicians had so long stood alone and been weak-kneed that patients, when pressed to pay for professional services rendered, would quickly turn and threaten suit for malpractice if the matter were pressed further. It was most unfortunate that many physicians, feeling their individual weakness, had been weak enough to make all sorts of compromise settlements in such suits, with far-reaching and disastrous results to their professional brethren. These facts show the need for better organization, and, hence, the movement to reorganize the New York State Medical Association. All must see, Dr. Wiggin said, the necessity for effective organization, there being about 120,000 regular physicians in this country. It had seemed to the committee on reorganization that it was logical to begin with the county, making that the unit, the next step being the state organization, and the third the National organization. The committee decided to start with a unit of ten, that being the basis of representation in the national body, THE AMERICAN MEDICAL ASSOCIATION. The controlling idea was "home rule," and the necessity for preventing any clique from getting control. The details of the plan were then explained, and the advantages pointed out. The members were urged to join the National organization, not only for the ordinary advantages of such membership, but because in this way one receives one of the best medical journals in the country—THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

Continuing, the speaker said that there existed a very general misunderstanding regarding the position of the regular profession toward homeopathy. He would not, he said, personally belong to any association that would endeavor to hamper him in his treatment of disease. A man may hold as many dogmas and peculiar views as he chooses to believe in, and still be a member of the regular profession, provided he is willing to be called simply a "physician" and not desire to be looked on as a disciple of a certain sect, thus placing himself in antagonism with the great mass of educated physicians. There is nothing in the Code of Ethics of the AMERICAN MEDICAL ASSOCIATION which prevents consultation with homeopaths under certain reasonable restrictions—certainly nothing which would operate to the disadvantage of the patient or the interests of humanity.

At the close of this address, the following resolution was unanimously adopted:

Resolved, That the First District Branch Association does express its approval of the proposed plan of reorganization of the New York State Medical Association.

International Congress of Hygiene and Demography.

Held at Paris, August 10 and 15.

Three-fourth of the 1500 members of this congress were official delegates from boards of health and hygienic associations. Physicians were numerous and prominent, but legislators, architects, etc., were well represented. Brouardel stated in his opening address that mothers could now be comforted with the assurance that the danger of contracting "croup" is only one-half what it was five years ago, while the chances of a fatal termination have been reduced by four-fifths. He added that one of the diphtheria wards in the Paris hospitals is about to be closed on account of disuse. He referred with especial approbation to the charts exhibited at the Exposition by the United States state boards of health, which portray with remarkable clearness the progress accomplished in the last ten years in the reduction of the general mortality and of that from diseases of known origin.

Roux discussed the means of measuring the activity of serums, and Riche called attention to the constant danger of insidious lead-poisoning from the lead used in the manufacture of the tin and enamel dishes for cooking and holding foods and drinks. In the discussion of proposed health-restrictions to marriage, certain members protested against the policy of frightening of prospective bridegrooms, as marriages are already far too infrequent, especially in France.

The resolutions adopted by the congress recommend, among other measures, that professional diplomas be awarded to plumbers, that streets and back-yards be widened, that tin cans be imprinted with the date of sealing, that water-pipes be placed where least liable to freeze, that cremation be more generally adopted, that employees in industrial establishments be protected from dust, etc., as much as possible and wear masks or spectacles. Warning circulars should be conspicuously posted pointing out the dangers of disregarding these measures. Ships trading with plague-infected ports should be supplied with antiplague serum. International prophylaxis of contagious diseases is best promoted by the presence of a physician as a sanitary official on ships. A person with a contagious disease should not be carried in an ordinary railroad car. One resolution was to the effect that as conductors of public vehicles have not the power to prevent expectoration on the floor, some other means should be devised to put an end to this promiscuous habit. The section for Industrial Hygiene adopted a set of resolutions so revolutionary in tone, that they were not even presented to the general congress, but were left as seed to germinate for the next congress, which will be held in Brussels in 1903, where the first international congress of hygiene convened fifty years before. One of these revolutionary resolutions mentioned was proposed by Pinard, and urged that salaried women should be entitled to rest during the last three months of pregnancy. He affirmed that prematurely born infants are handicapped all their life by the deficient development of their organs and tissues.

One of the most important measures adopted by the congress was that advocating a uniform international classification of the causes of deaths, to facilitate ready comparison of statistics. The classification used in the Paris municipal reports was accepted as the standard, and the *Semaine Méd.* of August 12 brings us word that all the delegates, except one, agreed to urge its adoption in their respective countries, to commence officially with the new century, January 1, 1901.

The Paris classification is as follows: Typhoid fever, M. 11, F. 15, T. 26; typhus; smallpox; measles; scarlet fever; whooping cough; diphtheria, croup; grippe; phthisis pulm.; tub. meningitis; other tuberculoses; cancerous tumors; other tumors; simple meningitis; cerebral congestion and hemorrhage; paralysis; softening of the brain; organic heart disease; acute bronchitis; chronic bronchitis; bronchopneumonia; pneumonia; other affections of respiratory apparatus; gastroenteritis, bottle fed; gastroenteritis, breast; diarrhea from 1 to 4; diarrhea over 5; puerperal fever and peritonitis; other puerperal affections; congenital debility; senility; suicides; deaths from other violence; other causes of death; unknown; still-births.

Paris was able to show the delegates over a model hygienic, altruistic, factory village, a great chocolate plant with 2000 employes. It also invited the members to sample the limpid water flowing off from the sewage farms, while decorating them with roses—the tangible expression of the solids of the sewage.

Rocky Mountain Interstate Medical Association.

Third Annual Convention, Butte, Mont., August 29-30.

President Dr. Charles K. Cole, of Helena, Mont., called the association to order at the Court House. The committee on necrology reported on the deaths of Drs. E. R. Axtel, of Denver, and Henry Chappell, of Livingston, Mont.

TUBERCULOSIS PROBLEMS.

DR. A. MANSFIELD HOLMES, of Denver, considered some problems pertaining to tuberculosis. One-seventh of the deaths are due to this disease, and, therefore, one-seventh of the population is tuberculous. He then spoke of the effect of the mountain region on the disease, exposure and remedies, and then took up the difficulties which the tuberculous patient encounters, who is unwelcome at health-resorts, hotels and boarding houses, and who finds it difficult to obtain employment on account of the nature of the disease. He urged the establishment of sanatoria.

DR. EDGAR P. HERSHEY, of Denver, recommended segregation by aggregation.

DR. ROBERT LEVY, of Denver, commended the accommodations offered by his city for consumptives, but agreed that the comforts of home were not to be ignored in these cases.

DR. LOUIS BERNHEIM, of Butte, spoke of the scarcity of tuberculosis in Montana. The smoky season in Butte should be avoided, but he considered the Montana climate as conducive to the cure of the disease as that of any other state in the union.

RENAL CALCULUS.

DR. HARRY D. NILES, of Salt Lake City, took up the diagnosis of renal calculus. The symptoms of this condition are often so masked and so similar to those of other diseases, such as vesical calculus, appendicitis, enterolithiasis, that the differentiation requires the greatest care and alertness. Stone in the kidney he considered as of relatively frequent occurrence. Early diagnosis is of more value than improved methods of operative technique.

DR. CHARLES M. CHAMBLISS, of Bozeman, Mont., endorsed the views of the essayist, had met with cases wrongly diagnosed, but stated that cases of renal calculus are infrequently met with in Bozeman.

DR. JAMES F. SPELMAN, of Anaconda, Mont., suggested that lumbago, sciatica and neuritis be added to the list of disease conditions which may make the diagnosis of renal lithiasis difficult.

DR. J. R. E. SIEVERS, of Butte, had noticed that occasional uranalyses often disclosed diseased conditions in patients who were apparently in sound health.

GASTRIC FEVER IN CHILDREN.

DR. G. T. MCCULLOUGH, of Missoula, Mont., discussed bilious fever as a disease of children. It was more prevalent, he said, in the Rocky Mountain district than in lower altitudes. He enlarged upon the etiology and symptomatology of the disease. The thermometer furnished the best means of differential diagnosis from typhoid, and the rash from scarlet fever. He then took up the treatment and urged that the patient be given plenty of water on the theory that the system craves and demands what the inflammation consumes.

DR. JOHN W. GUNN, of Butte, said that calomel was his favorite remedy in this disease. He did not approve of the use of aconite.

DR. W. FREDERICK MCCRIMMON, of Butte, suggested mild remedies for children suffering from biliousness and laid especial stress on the use of ice instead of water.

DR. LOUIS BERNHEIM, of Butte, did not think that a cold would bring on biliousness. He considered it due to a retardation of digestion, the result of ingestion of unsuitable or improperly prepared food. He favored mild remedies and mustard plasters, and did not approve of the employment of too much medicine, chloroform, morphin, etc.

DR. JAMES F. SPELMAN, of Anaconda, Mont., also considered that the essayist gave too much medicine. He favored rest of the stomach by abstinence from irritating foods and medicine.

DR. WALTER R. PIKE, of Provo City, Utah, took up the questions of temperance and perspiration and their action on the child suffering from gastric trouble. He also spoke for little medicine.

FRACTURES OF THE LOWER JAW.

DR. JAMES F. SPELMAN, of Anaconda, Mont., reported three interesting cases of compound fracture of the lower jaw in which the treatment was attended by excellent results. Other members of the association congratulated the operator on his results but criticised or discussed points in the technique of his procedures.

Papers were read also by Dr. Edgar P. Hershey, of Denver, on "Pilocarpin in the Treatment of Inebriety;" Dr. Samuel D. Hopkins, of Denver, on "Clinical Significance of Tremor," and Dr. Thomas A. Grigg, of Butte, on "The Use and Abuse of Glasses."

The following officers were then elected for the ensuing year: Dr. Carey K. Fleming, of Denver, president; Dr. Harry D. Niles, of Salt Lake City, Utah, first vice-president; Dr. Frederick F. W. McCrimmon, of Butte, Mont., second vice-president; Dr. Charles G. Plummer, of Salt Lake City, Utah, treasurer; Dr. Edgar P. Hershey, of Denver, recording secretary; Dr. Samuel D. Hopkins, corresponding secretary; board of trustees: Montana, Dr. T. J. Murray, of Butte; Colorado, Dr. A. Mansfield Holmes, of Denver; Wyoming, Dr. James Carter, of Carbon; Arizona, Dr. Charles H. Jones, of Tempe; Utah, Dr. Walter R. Pike, of Provo City; Idaho, Dr. James H. Bean, of Pocatello.

The 1901 meeting will be held in Denver the first Tuesday in September.

Therapeutics.

Insomnia.

Dr. Bradbury states that in the treatment of insomnia the great principle of therapeutics—the removal of the cause—should ever be kept in mind. The following is his classification of the causes of insomnia:

1. *Irritative Causes.*—This class includes the insomnia caused by pain and milder irritations, such as teething, indigestion, worms, eye-strain, facial adenoids, cold feet, asthma, vesical irritation.

2. *Toxic Causes.*—Alcoholism, gout, nicotism, gastric and intestinal disorders, Bright's disease, tea, coffee, drug habits, etc.

3. *Psychical Causes.*—Grief, shock, worry, mental anxiety.

4. *Causes Arising from Changes in Mode of Living.*—Late dinners, change of climate, women at the menopause, the various forms of insanity, etc.

It may be stated in this connection, as mentioned in an article in the *Therapeutic Gazette*, that the abuse of hypnotics in the treatment of insomnia is due: 1, to the carelessness of the physician in prescribing for the symptom insomnia and not seeking the cause; 2, to the reckless prescribing by druggists. It is unnecessary to state that simpler methods should be resorted to before medicinal treatment. The condition of the patient and the heart and arterial system should be ascertained before treatment is begun.

The following prescriptions represent good combinations which may be given in the different forms of insomnia, as the severity of the case may require:

℞.	Hypnal	ʒiii	12
	Syrupi simplicis, q. s. ad.	℥ii	64

M. Sig. One teaspoonful at bedtime, and repeat in two or three hours if sleep is not sooner produced.

Hypnal is a combination of chloral hydrate, 165.5 parts, and antipyrin, 188 parts. It is colorless, crystalline and soluble in six parts of water. The heart should be examined before its administration.

℞.	Chloralamid	ʒiss	6
	Liquoris ammonii acetatis	ʒiv	16
	Aquæ destil., q. s. ad.	℥iii	96

M. Sig. One tablespoonful at bedtime in water.

Chloralamid is a product of interaction between chloral hydrate and formamid. It is colorless, crystalline, soluble in twenty parts of cold water, and is a good substitute for chloral. It is not so powerful, so depressant nor so rapid in its action. It may be prescribed in powder form, to be dissolved in cold water, as hot water decomposes it.

℞.	Trionalis	ʒiss	6

Ft. pulveres No. vi. Sig. One powder in hot water at bedtime.

Trional differs from sulphonal in the replacing of a methyl by an ethyl group. It is colorless, crystalline, soluble in 320 parts of cold water, and freely soluble in hot water. It is more powerful than sulphonal as a hypnotic, but fully as safe. Habermann recommends that it be given in carbonated water.

Trional is of advantage over sulphonal in that it can be administered for a prolonged length of time, and does not cause the circulatory, digestive nor renal disturbances. In chronic psychic disorders it is said to act more promptly, as in insomnia from maniacal excitement or alcoholic delirium, but is not indicated in melancholia or hypochondriasis, as it increases the nervous depression.

—*Amer. Year-Book of Med.*, 1896.

℞.	Sulphonal	ʒiss	6

Ft. pulveres No. vi. Sig. One powder in hot water three or four hours before bedtime.

Sulphonal is colorless, crystalline, tasteless, soluble in 500 parts of cold water and 15 parts of boiling water. In cases of insanity, where it is difficult to administer medicine to the patient the powder may be placed in his soup. It seems from the literature that more harm may come from sulphonal than is ordinarily supposed. It is advised not to prescribe sulphonal continuously, and to carefully examine the urine from time to time during its administration. Another objection to sulphonal is that its action may be delayed until the following day, and then produce symptoms of drowsiness lasting for several hours. Priestly's advice is that after a week's administration it should be dropped for three or four days, and by keeping this point in view it is unattended by danger, except when the kidneys are diseased. The maximum dose for men is 30 grains and for women 15 grains.

℞.	Potassii bromidi	ʒii	8
	Liquoris potassii arsenitis	ʒss	2
	Aquæ cinnamomi, q. s. ad	℥vi	192

M. Sig. One to two dessertspoonfuls at night in water.

Hare recommends the above combination of bromids and arsenic in females with a weak heart where chloral is contraindicated. The arsenic prevents the production of acne.

R. W. Wilcox, in the *Med. News*, April, 1900, states the following concerning the requirements of a hypnotic which approximates as closely as possible the theoretical agent: 1, it must combine one of the alcohol radicals; 2, it must be free from depressant action on the heart and vessels; 3, it must not derange assimilation; 4, it must be safe, reliable and palatable, and he regards chloretone as nearest approaching these requirements.

℞.	Tablets chloretoni, āā	gr. iii-vi	18-36

No. xv. Sig. One every two or three hours until sleep is produced.

This preparation is a white, crystalline substance, having a camphoraceous odor. It is formed through the interaction of chloroform, acetone and alkali. It is fully soluble in water. It is a local anesthetic as well as hypnotic. Its principal action is said to be on the cortical cells of the brain and it has practically no effect on the centers in the medulla, and from the statements concerning this preparation it can be given in very large doses with no ill effects.

Dr. C. J. Douglas, of Boston, has obtained good hypnotic results from the following:

℞.	Tablets apomorphiæ hydrochloratis, āā	gr. 1/30	002

Sig. To be given hypodermically at bedtime.

INSOMNIA FROM FUNCTIONAL NERVOUS DISTURBANCES.

℞.	Tinct. lupuli	ʒi	4
	Sodii bromidi	gr. xv	1
	Aquæ chloroformi, q. s. ad	℥iss	48

M. Ft. haustus. Sig. At one dose, to be taken at bedtime.

℞.	Paraldehydi	ʒiiss	10
	Syrupi aurantii	ʒiv	16
	Spiritus vini rect.	℥iss	48
	Aquæ destil.	℥ii	64
	Syrupi simplicis, q. s. ad	℥v	160

M. Sig. One tablespoonful at bedtime.

Paraldehyde is obtained by the action of sulphuric acid on aldehyde. It is a clear fluid, with a disagreeable taste. It is said that it will not depress the heart, but is apt to disturb the stomach. It should be administered as above, or with equal parts of oil of sweet almonds.

NIGHT TERRORS.

R.	Potassii bromidi	ʒii	8
	Tinct. hyoscyami	ʒi	4
	Syrupi simplicis, q. s. ad	℥iii	96

M. Sig. One teaspoonful at night in water to a child of 4 to 6 years of age. —*Dominion Med. Monthly.*

The bromids increase the hypnotic effect of the hyoscyamus.

℞.	Ammonii bromidi		
	Sodii bromidi		
	Vini antimonii, āā	ʒss	2
	Syrupi simplicis	℥i	32
	Aquæ menthæ pip., q. s. ad	℥vi	192

M. Sig. One teaspoonful at bedtime. —Gould and Pyle.

IN MILD FORM OF INSOMNIA.

℞.	Tinct. sumbul (B. P.)	℥i	32

Sig. Twenty or thirty drops in water at bedtime.

℞.	Ext. hyoscyami	gr. viii	5
	Ext. conii	gr. xv	1

M. Ft. capsulæ No. viii. Sig. [illegible] two or three hours.

INSOMNIA DURING DENTITION.

℞. Chloralis hydratis ....gr. viii | 5
Sodii bromidi ....gr. xv | 1
Syrupi lactucarii
Aquæ destil., āā ....℥ss | 16

M. Sig. One teaspoonful every hour until quiet, for a child of 6 months or older. —Gould and Pyle.

INSOMNIA IN FIRST STAGE OF PLEURISY.

℞. Codeinæ
Pulv. ipecacuanhæ, āā ....gr. iii | 18
Pulv. camphoræ ....gr. xv | 1
Quininæ sulphatis ....gr. xii | 72

M. Ft. capsulæ No. xii. Sig. One capsule every three or four hours.

INSOMNIA OF ASTHMA.

℞. Tinct. lobeliæ ....ʒiv 16
Morphinæ sulphatis ....gr. 1/3 | 02
Elixiris simplicis, q. s. ad...........℥ii 64

M. Sig. One teaspoonful at night or during the attack, and repeat in two hours if necessary.

℞. Ammonii bromidi ....ʒii 8
Aquæ camphoræ ....℥i 32
Elixiris simplicis, q. s. ad.............℥ii 64

M. Sig. One dessertspoonful at night in water. To be repeated in two hours if required.

INSOMNIA DUE TO INCOMPETENT HEART.

℞. Tinct. digitalis ....℥ii 64

Sig. Five to ten drops in water every four or five hours.

IN CHRONIC BRIGHT'S DISEASE.

℞. Chloralis hydratis ....ʒi 4
Syrupi aurantii ....℥i 32
Syrupi simplicis, q. s. ad.............℥ii 64

M. Sig. Two teaspoonfuls at bedtime in water.

INSOMNIA DUE TO GASTROINTESTINAL DISTURBANCE.

℞. Sodii carbonatis ....ʒiss 6
Spiritus ammoniæ arom...............ʒv 20
Ammonii bromidi ....ʒiss 6
Tinct. cardamomi comp..............℥i 32
Aquæ menthæ pip., q. s. ad..........℥iv 128

M. Sig. One dessertspoonful at bedtime, and repeat in one hour if necessary.

INSOMNIA DUE TO OVERWORK OR WORRY.

℞. Olei terebinthinæ ....gtt. xxx 2

Sig. In capsule at one dose as a stimulant. —Bradbury.

INSOMNIA OF ALCOHOLISM.

℞. Tablets strychninæ sulphatis, āā...gr. 1/30 | 002

Sig. One tablet hypodermically, and repeat in four hours if necessary.

℞. Tablets strychninæ sulphatis, āā...gr. 1/30 | 002
Potassii bromidi ....ʒiv 16
Elixiris simplicis, q. s. ad...........℥iii 128

M. Sig. One dessertspoonful at bedtime in water.
—Clouston: *N. Y. Med. Journal.*

℞. Syrupi zingiberis
Spiritus ammoniæ arom.
Tinct. valerianæ, āā ....℥ii 64
Sat. sol. potassii bromidi, q. s. ad....℥viii 256

M. Sig. One tablespoonful in water every three or four hours.

INSOMNIA OF ACUTE ALCOHOLISM.

℞. Sodii bromidi
Chloralis hydratis, āā.............gr. xv 1
Tinct. hyoscyami ....m. xv 1

M. Sig. At one dose. Repeat in one hour if necessary.
—D. R. Brower.

℞. Chloralamid ....gr. xv 1
Hyoscinæ hydrobromatis........gr. 1/100 | 0006

M. Sig. At one dose. —D. R. Brower.

INSOMNIA OF ACUTE ALCOHOLIC PNEUMONIA.

R. Codeinæ ....gr. ii | 12
Elixiris chloralamid (gr. xx to ℥i).....℥ii 64

M. Sig. One tablespoonful, to be repeated in two hours if necessary. —A. A. Smith: *N. Y. Polyclinic.*

INSOMNIA OF DELIRIUM TREMENS.

℞. Chloralis hydratis ....ʒiv 16
Tinct. capsici ....℥i 32
Aquæ menthæ pip....................℥v 160

M. Sig. One tablespoonful every two or three hours until sleep is produced. —Gould.

INSOMNIA OF CONVALESCENCE FROM ACUTE DISEASE.

℞. Somnal ....ʒiv 16
Elixiris simplicis, q. s. ad.............℥ii 64

M. Sig. One teaspoonful in water at bedtime; repeated in three hours if necessary to produce sleep.

Somnal is a compound of chloral, alcohol and urethane.

Khmelewsky, in the "Year-Book of Medicine," states that in melancholia and simple insomnia, somnal acts better than any other hypnotic; that it is not accompanied by any disagreeable subjective symptoms on awakening; that it does not seem to affect the heart. The principal non-indication is in producing gastrointestinal disorders.

INSOMNIA OF MELANCHOLIA.

Dr. Weatherly, in the *Bristol Med.-Chir. Jour.*, advises the following prescription:

℞. Phenacetini ....gr. x | 66

Sig. At one dose and repeat in an hour if necessary.

℞. Morphinæ sulphatis ....gr. 1/12 | 005

Sig. At one dose and repeat once or twice during the day if necessary.

℞. Tablets hyoscinæ hydrobromatis,
āā ....gr. 1/150 | 0004

Sig. At one dose hypodermically.

Hyoscine is indicated especially in agitative form of melancholia. The presence of heart lesions would contraindicate its use.

INSOMNIA OF HYPOCHONDRIA.

℞. Urethane ....ʒiv 16
Elixiris simplicis, q. s. ad............℥iv 128

M. Sig. One dessertspoonful in water at bedtime.

Urethane is obtained by heating a salt of urea with ethyl alcohol. It is soluble in water or alcohol; is colorless; has a saltpetre taste, and is crystalline. It is said to have no unpleasant after-effects, and can be given in insomnia due to mitral insufficiency.

INSOMNIA OF HYSTERIA.

℞. Potassii bromidi ....ʒiv 16
Chloralis hydratis ....ʒiii 12
Tinct. asafœtidæ ....ʒiv 16
Syrupi simplicis ....ʒvi 24
Aquæ destil., q. s. ad.................℥vi 192

M. Sig. One tablespoonful every three hours until sleep is produced. —Potter.

INSOMNIA DURING CLIMACTERIC.

℞. Ammonii bromidi ....ʒiii 12
Tinct. humuli ....ʒvi 24
Aquæ camphoræ q. s. ad.............℥iii 96

M. Sig. One dessertspoonful in water at bedtime.

Bradbury recommends the above combination. He states that it is of use in relieving the insomnia as well as the mental depression and flushing heats so common at this period.

INSOMNIA OF NEURASTHENIA.

℞. Chloralamid
Tinct. zingiberis, āā.................ʒiv 16
Aquæ menthæ pip., q. s. ad ....℥iv 128

M. Sig. One tablespoonful at bedtime in water.
—*Presse Médicale.*

Dr. Arthur Schüller (*N. Y. Med. Journal*, June 30, 1900) recommends the following for the insomnia in neurasthenia, hysteria and alcoholism:

℞. Hedonal ....ʒv 20
Tinct. cinnamomi ....ʒi 4
Elixiris aromatici, q. s. ad...........℥iii 96

M. Sig. One dessertspoonful at bedtime.

He states that the dose ranges from 18 to 22 grains, and advises it given in the above form on account of the disagreeable taste.

℞. Lupulini
Pulv. camphoræ
Ext. hyoscyami, āā..........................gr. iii 18

M. Ft. capsulæ No. ii. Sig. One at bedtime, and repeat in an hour or two if necessary. —Steward.

NERVOUS INSOMNIA.

Render a tumblerful of sour curds and whey alkaline with sodium bicarbonate; *sweeten and grate nutmeg on top;* serve hot. —*Med. Record.*

INSOMNIA DUE TO FUNCTIONAL DISORDERS.

Dr. J. W. Courtney's article on the treatment of insomnia due to functional disorders, in *Personal Hygiene*, contains the following suggestions:

1. Mental work should be performed during the first part of the day and be limited to four or six hours.
2. The bed-chamber should be cool, the bed hard and the covers light.
3. Care should be taken that the feet do not get cold, since the sensory stimuli prevent sleep.
4. A glass of warm milk or a cup of bouillon or even a glass of beer or a small quantity of food. (Avoid any large amount of alcohol.)
5. Counterirritation by application of bottles of warm water to the feet and back, and warm compresses over abdomen.
6. Very gentle massage to the back of the head and neck or gentle rubbing to the whole body, beginning with the lower extremities and working up; but this should not be done after 6 p. m., and never longer than five or six minutes at a time.

Medicolegal.

Constitutionality of Licensing Lying-in Asylums.—Section 288 of the New York penal code provides that a person who, "not being a superintendent of the poor or a superintendent of alms-houses, or an institution duly incorporated for the purpose, without having first obtained the license in writing so to do from the board of health of the city or town wherein such females or children are received, boarded or kept, erects, conducts, establishes or maintains any maternity hospital, lying-in asylum, where females may be received, cared for or treated during pregnancy, or during or after delivery," is guilty of a misdemeanor. This was averred to be unconstitutional, in the case of People vs. Hagan. But it is upheld by the first appellate division of the Supreme Court of New York. The latter says nothing in this section would prevent a person from properly caring for another boarding or living with her during pregnancy. It is the maintenance of an institution or lying-in asylum which is conducted or maintained for that purpose that is prohibited. Undoubtedly, to justify a conviction under this section, the court continues, it would be necessary to prove that the person charged had either erected, conducted, or maintained such an institution—an institution which has for its object the care of persons who are pregnant, or during or after their delivery. The requirement of a license for such an institution is to enable the public authorities to make proper sanitary regulations as to such institutions, so that inmates should not be exposed to infection, or the dangers that arise from improper uses. So, while no attempt is made to regulate the confinement of persons wherever they happen to be living, but the legislature has deemed it proper to regulate institutions or hospitals established or maintained for the treatment of such persons, the court thinks that such a regulation comes clearly within the power of the legislature. There can be no doubt, it says, that an institution in an unsanitary condition, receiving persons to be cared for during or after delivery, and in charge of incompetent persons, might cause great injury to those who become inmates thereof; and, therefore, a provision that, before a person can maintain such an institution, he must, by procuring a license from the health authorities, satisfy them that the arrangements are such that inmates will receive proper care and attention, the court holds, is within the power of the legislature.

Contract Not to Practice in Place for Ten Years.—A practicing physician, located in a town in Texas, sold to another his homestead. His wife joined in the deed in the usual manner. But, besides the usual provisions, the deed contained one stating that he, the selling physician, agreed not to locate in that town, or within a radius of ten miles of the town, to practice medicine, for the space of ten years from the date of the deed, his intention being thereby to convey his good will as well as his property. Thereafter, the purchaser brought suit on this contract, and recovered a judgment of $10 damages, and obtained an injunction restraining the seller from locating or establishing an office in the town referred to, or within a radius of 10 miles thereof, to practice medicine and surgery within such town or a radius of 10 miles thereof, unless he should be sent for outside of such radius, or from a point outside of such radius, and from interfering with the complainant's practice of medicine by establishing or locating an office for the purpose of practicing medicine and receiving calls from patients within a radius of 10 miles from said town, until the expiration of said 10 years. And the Court of Civil Appeals of Texas affirms the judgment of the court below. It points out that the restriction was limited as to area and as to time, and that it did not, as to such area, totally exclude the defendant from practice, the effect of the contract being to restrain, or within 10 miles therefrom, for 10 years. It is clear, from the authorities, the court thinks, that the agreement was not void at common law. Nor does it consider it invalid under the Texas statute against combinations in restraint or trade or preventing competition. It explains, case of Wolff vs. Hirschfield, that a transaction of this character is not rendered invalid, by the statute, for the reason that it is not a combination of persons, and because it is a sale of "good will," which is a subject of purchase and sale; that is to say, property. That the home sold did not necessarily have any connection with the practice sold the court does not think made any material difference. It says that if, as the authorities hold, the practice of a physician is a thing of value, and as such is a proper subject for a contract of sale, a sale thereof, with such contract restrictions as are reasonably necessary to make the sale effectual, will not fall within the prohibition of the statute mentioned.

Removal of Smallpox Patients to Pest-House.—Hengehold vs. City of Covington, the Court of Appeals of Kentucky says, was an agreed case wherein it was asked to decide these questions: 1. Has a city of the second class, in Kentucky, power to pass an ordinance providing for the removal of smallpox patients to a pest-house? 2. Can such city by ordinance vest such power, to remove such persons so afflicted to a pest-house, in its health board, or in any three members thereof, or in the health officer. 3. Can such removal of persons so afflicted be made by the board of health or by the city health officer, notwithstanding the physician attending the patient shall certify in writing that the patient's life would be endangered by such removal, or that he has good and careful attention, and his removal would not be advisable as a sanitary measure? In answering these question, the court says that the preservation of the public health has always been held a proper exercise of police power. There can be no doubt that in order to prevent the spread of disease, and to provide healthful conditions for the public, boards of health and like commissions may be created, and invested with power necessary and proper for such purposes; and, in determining the validity of the acts of such boards and their officers, a liberal construction is justified, in view of the public good to be accomplished. There can be no doubt of the power of the state legislature to create state boards of health for the preservation of the general health of the state, to confer upon cities and counties authority to make regulations for the health of their communities, and even to create separate corporations, differing from the political subdivisions, with like powers within their limits. Both in England and the United States such powers have been almost uniformly delegated to boards of health of municipal corporations to enact rules for the preservation of the public health, having the force of law within the respective communities; and it would seem that, in the absence of express authority, municipalities have an implied power to enact reasonable ordinances to preserve the public health and to prevent and remove nuisances. Under its general powers to guard against epidemic diseases, a board of health may control and isolate persons affected with the disease. And this power, the court goes on to say, seems to be expressly delegated to the local boards by the provision of the Kentucky statutes which empowers them to inaugurate and execute such sanitary regulations as the local board may consider expedient to prevent the outbreak and spread of epidemic diseases, and to this end may bring the infected population under prompt and proper treatment during premonitory and other stages of disease. It is certainly a reasonable regulation, the court thinks, which provides for the removal of such cases to a pest-house in good sanitary condition, provided with nurses and physicians for the treatment of patients suffering with the disease. Therefore the court is of the opinion that the local board, or a quorum thereof, has undoubtedly power to order the removal of an infected patient to the pest-house. Taking up what it denominates a narrower question, the court calls attention to its being a general rule upon this subject that laws establishing state boards, and laws establishing local boards, shall be construed together, so as to give effect to both. Applying this rule, in this case, to the general law as to the powers of local boards and the charter of cities of the second class, in Kentucky, which expressly authorizes them to establish and enforce quarantine laws and regulations to prevent the introduction and spread of contagious diseases, and to secure the general health of the inhabitants by any necessary measure, the court says that it follows that the city is authorized to make additional reasonable regulations to prevent the spread of epidemic diseases. And a regulation empowering three members of the board, or the health officer elected by the board, to order the removal of a smallpox patient, it holds, is a reasonable regulation, especially where there is provided an appeal to the board, and a requirement of action by the board itself upon a certificate by the attending physician that the removal would endanger the patient's life. In such cases, it adds, the necessity for immediate action is imperative, and it is not unreasonable to permit the health officer, or less than a quorum of the board, to order such removal, in a case where it does not appear that the removal would endanger the patient's life.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Medical Record (N. Y.), September 1.

1 *Relative Bearing of the Conjoined Tendon and the Internal Oblique Muscle Upon the Radical Cure of Inguinal Hernia. Joseph A. Blake.
2 *Significance of the Bacillus Coli Communis in Drinking Water. J. H. Linsley and B. H. Stone.
3 Pathologic Physiology or Experimental Pathology, Its Scope and Significance in Medicine. Isaac Levin.
4 *The Discovery of "Ureine," the Principal Organic Constituent of Urine and the True Cause of Uremia. William O. Moor.

New York Medical Journal, September 1.

5 *Fibroid Tumors of the Uterus Complicating Pregnancy. Lewis S. McMurtry.
6 *Atrophic Rhinitis. James E. Logan.
7 Report of a Case of Nephrectomy for Ascending Tuberculosis, with Some Remarks on Cystoscopy and Catheterization of the Ureters in Women. (To be continued.) Hiram N. Vineberg.
8 Case of Acute Glaucoma with Subhyaloid Hemorrhage Supervening Upon Uniocular Retinitis Albuminurica. David Webster and Edgar S. Thomson.
9 Treatment of Tuberculous and Purulent Joints with Large-Glass-Speculum Drainage and Pure Carbolic Acid, with a Report of Seventy Cases. (To be concluded.) A. M. Phelps.

Philadelphia Medical Journal, September 1.

10 The Master of Medicine as the Teacher of Medicine. Bayard Holmes.
11 The Teaching of Physiology. William T. Porter.
12 Teaching of Pharmacology, Materia Medica, and Therapeutics in our Medical Schools. John J. Abel.
13 The Unit System of Laboratory Construction. Charles S. Minot.
14 Methods of Teaching Gynecology. Howard A. Kelly.
15 The Method of Teaching Physiological Chemistry. R. H. Crittenden.
16 Teaching Obstetrics. J. Whitridge Williams.
17 Teaching of Pathology. J. G. Adami.
18 Methods of Teaching Hygiene. Victor C. Vaughan.
19 Teaching of Anatomy. William Keiller.
20 Practical Clinical Teaching of State Medicine. Wyatt Johnston.
21 Comparative Pathology; Its Relation to Biology and Medicine. Theobald Smith.
22 *Etiology of Tropical Dysentery. Simon Flexner.

Medical News (N. Y.), September 1.

23 *Improved Technique for the Cure of Ventral Hernia. M. M. Johnson.
24 *Differential Diagnosis of Chronic Rheumatism. James J. Walsh.
25 *Essential Conditions for Habitation to Develop and Maintain Healthful Family Existence. Rosa Engelmann.
26 *Gastroptosis, with Special Reference to a New Mechanical Support. H. W. Lincoln.
27 The Advances in Medicine. Martin M. Kittell.
28 Musical Equivalents in Epilepsy, with Report of Two Cases. L. Pierce Clark.

Boston Medical and Surgical Journal, August 30.

29 *The Surgeon in the Nineteenth Century. Frederick Treves.
30 *Results of the Operative Treatment of Cancer of the Breast. Homer Gage.
31 *The Injurious Effects of Improperly Constructed School Chairs. J. S. Stone.
32 Case of Parovarian Cyst, with Twist of the Pedicle Occurring During the Fourth Month of Pregnancy; Operation; Recovery: Normal Delivery at Term. F. B. Lund.

Cincinnati Lancet-Clinic, September 1.

33 Laryngeal Tuberculosis. John A. Thompson.
34 Tuberculosis of the Kidney. C. S. Evans.
35 Tubercular Meningitis. E. W. Mitchell.

Pediatrics (N. Y.), August 15.

36 *The Use of the Diphtheria Antitoxic Globulins of the Blood Serum Instead of the Entire Serum in Diphtheria. William H. Park.
37 A Suspension-Pressure Chair for Rotary-Lateral Curvature of the Spine. Philip Hoffman.
38 Case of Nasal Diphtheria Complicated by Bronchopneumonia. Samuel McC. Hamill.

Medical Fortnightly (St. Louis), August 25.

39 Diseases of the Lungs and Pleura. Albert Abrams.
40 The Case of John Mongolian Type. Fanny King.

Virginia Medical Semi-Monthly, August 10.

41 *The Neurologic and Medicolegal Aspects of Spinal Injuries from Railroad Accidents. Wharton Sinkler.
42 Preventive Treatment of Puerperal Fever. Stephen Harnsberger.
43 *Continued Use of the Antiseptic and Eliminative Treatment of Typhoid Fever Without Any Deaths. T. Virgil Hubbard.
44 Synopsis of Paper on the Variations in Human Gait. E. H. Bradford.
45 A Case of Traumatic Tetanus Cured with Antitoxin. Blanton A. Hillsman.
46 Report of a Case of Typhoid Fever with Perforation. W. B. French.

American Journal of Obstetrics N. Y.), August

47 Pathology of Tubal Pregnancy. Maximilian Herzog.
48 *The Technique, Indications, and Remote Results of Suturing the Round Ligaments to the Vaginal Wall for Retroversions and Flexions of the Uterus. Hiram N. Vineberg.
49 *Retrodislocation of the Uterus. R. S. Hill.
50 *The Remote Results of Conservative Operations on the Ovaries and Tubes. W. L. Burrage.
51 Report of Two Cases of Epithelioma of the Vulva. Charles P. Noble.
52 *Hernia in Children. Edward A. Balloch.
53 Report of a Case of Superior Occipital Hydrencephalocele Successfully Operated Upon. A. Palmer Dudley.
54 Placenta Previa, with Death of Fetus Before Term, and Delivery Without Hemorrhage. U. S. Bird.

Clinical Review (Chicago), September.

55 Appendicitis—Etiology—Pathology, Clinical Course. George Dock.
56 Diagnosis of Appendicitis. Frank B. Tibbals.
57 Surgical Treatment of Appendicitis. Alexander H. Ferguson.
58 Fistulæ After Appendicitis; Their Prevention and Treatment. Rush McNair.
59 Clinical Lectures Upon the Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings.
60 Modern Treatment of Fractures and Bone Lesions. Donald MacLean.

Ophthalmic Record (Chicago), August.

61 Exfoliation of the Anterior Layer of the Iris with Partial Opacity of the Lens. Edward Jackson.
62 *Ophthalmic Memoranda. G. E. de Schweinitz.
63 Modification of the Holmgren Wool Test for Color Blindness. George F. Keiper.
64 Keratitis Ulcerativa Marginalis. W. A. Martin.
65 An Adjustable Trial Box for Square Prisms. Vard H. Hulen.
66 *Venous Pulsation in the Fundus Oculi. M. F. Weymann.
67 Plano-Bifocal-Segments in Trial Rings to Facilitate Presbyopic Refraction. J. N. Rhoades.

68 Epiphora; Lachrymal Abscess; Congenital Absence of Lachrymal Punctæ; Structure of the Lachrymal Duct. L. Webster Fox.

Peoria Medical Journal, August.

69 Some Practical Observations Made at the New York Post-Graduate Medical School and Hospital.
70 Diagnosis of Smallpox. Charles B. Johnson.

Annals of Ophthalmology (St. Louis), July.

71 *Pterygia: Pathology and Treatment. M. F. Weymann.
72 *The *Relation of Tenon's Capsule and the Check Ligaments* to Enophthalmos—Report of a Case of Traumatic Exophthalmos. William T. Shoemaker.
73 *The Significance of Chronic Rhinitis in Relation to Ocular Affections. Edmond E. Blaauw.
74 *Removal of Foreign Bodies from the Eyeball: Based Upon a Report of Eighteen Cases. Charles Lukens.
75 Spasm of Accommodation in Glaucoma Relieved by Eserin. J. A. Lippincott.
76 A Description of the Royal London Ophthalmic Hospital. William Campbell Posey.

Obstetrics (N Y.), August.

77 Researches with Reference to Osmotic Pressure Between Mother and Child. J. Veit.
78 Extrauterine Pregnancy. Louis Frank.
79 Puerperal Fever. George Rowland.

American Journal of Ophthalmology (St. Louis), August.

80 *Some Observations Upon Syphilitic Manifestations in the Uveal Tract—the Iris, Ciliary Body and Choroid. Paul Turner Vaughan.
81 *A Comparison of the Cycloplegic Action of Scopolamin and Atropin. W. K. Rogers.
82 *Report of a Case of Choroidal Sarcoma in a Syphilitic. M. H. Post.

Western Medical Review (Lincoln, Neb.), August 15.

83 The Medical Student of the Last Century. S. D. Tobey.
84 *The Administration of Anesthetics. E. E. Levers.
85 The Equipment of the Modern Medical College. Millard Langfeld.
86 Cerebrospinal Meningitis, with a Brief Report and Some Observations. F. R. Swigart.
87 A Clinic. F. R. Swigart.
88 Clinical Demonstration. E. Stuver.

Woman's Medical Journal (Toledo. Ohio), August.

89 *Relation of the Physician to the Public School. Katharine Miller.
90 Postpartum Hemorrhage. Alice E. Burton.
91 Relative Value of Symptoms of Acute Peritonitis. E. Stanmore Bishop.

Merck's Archives (N. Y.), August.

92 The Effect of Alcohol on the Human System. Samuel H. Johnson.
93 Marked Poisoning from Five Grains of Quinin. Franklin W. Bock.
94 Clinical Observations Regarding Ichthalbin in Intestinal Diseases. Dr. Rolly.
95 *Fireman's Cramp. Willis Cummings.

Interstate Medical Journal (St. Louis), August.

96 *State of the Spinal Cord in Congenital Absence of a Limb. J. W. Ballantyne.
97 *Some Observations on Secondary Syphilis. William Frick.
98 *Insolation. Bernard S. Simpson.
99 The Light Treatment at the London Hospital. J. H. Sequeira.
100 *A Case of Rhachischisis. T. M. Rotch.

St. Louis Courier of Medicine, August.

101 Some Medical and Other Gleanings from Old-Time Chronicles and Records. George Homan.
102 The Adaptation of the Rules of Asepsis to Private Obstetric Work. H. S. Crossen.
103 *Report of a Case of Choroidal Sarcoma in a Syphilitic. M. H. Post.
104 *Upon Drainage of the Abdominal Cavity, with Excerpts from the Literature. Norvelle Wallace Sharpe.
105 Gonorrhea and Marriage. E. C. Burnett.
106 Are Emergencies Fully Anticipated in Obstetric Practice? C. A. Dannaker.

Southern Illinois Journal of Medicine and Surgery, August.

107 Medical Jurisprudence. Ben O. Jones.
108 Sympathetic Irritation and Sympathetic Ophthalmitis. Warwick M. Cowgill.
109 "Christian Science." S. J. Rhoads.
110 The Gold Cure. H. C. Fisher.
111 Dysentery: Its Etiology and Treatment. M. H. Trovillion.
112 "The Graduate." Charles E. Tucker.

Texas Medical Journal, August.

113 *Treatment of Phthisis Pulmonalis with Watery Extract of Tubercle Bacilli. James D. Osborne.
114 *Should the Use of Antitoxin in Tuberculosis be Condemned from a Purely Scientific Point of View? Carl Von Ruck.
115 Pernicious Vomiting of Pregnancy and Its Treatment with Electricity. J. P. Oliver.
116 The Clinical Laboratory as an Adjunct to Medicine. R. L. Jones.
117 The Baby's Second Summer. E. S. Ferguson.
118 Injection Treatment of Hernia. E. E. Guinn.

American Therapy (N. Y.), July.

119 *Remarks on Stenosis of the Pylorus. Henry W. Bettman.
120 Painless Labor Under Hypnotism. Jason Parker.
121 A New Method of Anesthesia. F. C. Floeckinger.

Charlotte Medical Journal, August.

122 *Remarks on the Nature and Treatment of Corneal Ulcers. Gaillard S. Tennent.
123 *Etiology and Treatment of Laryngeal Phthisis. T. P. Cheesborough.
124 The Treatment of Infantile Anuria and Retention in Adults. W. T. Parrott.
125 Report of a Case of Double Mastoiditis—Operation—Recovery. George F. Keiper.
126 Pyosalpinx. F. R. Millard.

Medical and Surgical Monitor (Indianapolis, Ind.), August 15.

127 *Therapeutic Value of Electricity. L. T. Lowder.
128 Case of Traumatic Vesicovaginal Fistula. Frederick A. Tucker.
129 Abortion. Thomas B. Noble.
130 Treatment of Acute Dysentery. Allison Maxwell.

AMERICAN.

1.—See abstract in THE JOURNAL, xxxiv, p. 1133.

2. **Bacillus Coli Communis.**—After a consideration of all the facts available, Linsley and Stone conclude that waters in which the bacilli coli communes are found to exist for any length of time are dangerous to the public health and should be condemned.

3. **Pathologic Physiology.**—In this lengthy article Levin discusses the various physiologic pathologies of the organs and functions, showing the position of pathologic physiology or experimental pathology in medicine and its importance to students and physicians.

4. **Ureine.**—Moor has found in the urine a new organic liquid, which he considers its most characteristic component, and describes the method of its isolation by treating with nitrate of silver and then with oxalic acid. The two principal rules to be kept in view are: 1, avoid high temperature; 2, use chemicals as little as possible. The substance resembles in aspect olive-oil, is of a pale yellowish color, slightly bitter to the taste, greasy to the touch, produces spots on paper, is about as heavy as glycerin, freely miscible in all proportions of water and alcohol, barely soluble in ether, and slightly alkaline in reaction. He thinks that it belongs to the group of alcohols of the aromatic series. It begins to split into different bodies at 80 C. belonging to the class of aromatic oxi-acids, and if heated to 150 C. leaves behind it pure carbon. It has a characteristic odor, that of urine; when rubbed on the skin it produces a slight burning sensation and is probably the principal cause of the irritative effects of urine. One of its most remarkable characteristics is its ability to take up large quantities of oxygen. He finds it surpasses urea as regards quantity, the greatest amount being contained in the urine voided between 5 and 7 p.m. He gives the results of experiments on animals, showing its toxicity and claims that it is the probable cause of the ammoniacal fermentation of urine, as without its presence urea can not be decomposed into ammonia and carbon dioxid. Without it he thinks all organic matter would be converted into urea which would remain in nature without any use.

5. **Tumors and Pregnancy.**—After first noticing the dangers of these growths in case of pregnancy, the author gives the statistics of Gusserow as illustrating the fact, and mentions the diagnosis, which is generally easily made when the tumor is on the anterior surface of the uterus, but may be difficult under other conditions. He advises that the patient be allowed to go nearly to term, when possible, and a Porro-Cesarean operation then be performed. When, however, the tumor grows from the lower posterior portion and fills the lower pelvic cavity, immediate hysteromyomectomy is advisable, and he reports a case illustrating its necessity.

6. **Atrophic Rhinitis.**—The causes of atrophic rhinitis are discussed by Logan, who finds none of the theories satisfactory. The hypertrophic origin may be dismissed, the theory of suppurative rhinitis in childhood, as suggested by Bosworth, might explain atrophic changes, but there is difficulty in understanding how the excessive secretion can be kept up by the atrophic tissue. The failure of inoculation experiments

is against Lowenberg's germ theory and the vital objection to all is the failure of explanation of the immense secretion. Logan thinks the middle turbinate is more liable to atrophy than the others, since its blood-supply is more limited and its tissue less resistant. He reports three cases.

22. **Tropical Dysentery.**—Flexner first reviews the history of the studies on the bacteriology of dysentery and concludes: 1, that no bacillus species yet described as a cause has any special claim to be the chief micro-organism in the etiology; 2, it is unlikely that any bacterial species that is constantly in the intestines or environments of man, except where the disease is endemic, can be considered as a probable cause of epidemic dysentery; 3, the relation of sporadic to epidemic dysentery is so remote that it is improbable that the two diseases are produced by the same organic cause; 4, the pathogenic action of the ameba coli in many cases of tropical and some of sporadic dysentery has not been disproved by the discovery of the ameba in the normal intestines and in other diseases than dysentery. While they are commonly present and concerned in the production of lesions in subacute and chronic dysentery, they have not thus far been shown to be equally connected with the acute dysentery even in the tropics. In the former varieties, bacterial association probably has much influence upon the pathogenic powers of the ameba. He next takes up the subject of dysentery in Japan and the Philippine Islands, noticing especially the statistics of Ogata and Eldridge and the bacterial studies and findings of Shiga; the organism found by the latter investigator seems to agree with the one found by Flexner and his associates in the dysentery of the Philippine Islands. The first type is a bacillus of the average size of B. coli communis, varying somewhat in the length, but almost none in the thickness, the ends slightly rounded, easily separated, markedly motile, and Gram's stain negative. It grows on all culture-media and is pathogenic to the ordinary laboratory animals. It is abundant in the acute cases, but is hard to find as they become chronic and was not found in the ordinary amebic dysentery of Manila. The second type is less numerous in acute cases and in its properties agrees well with those of the group of the colon bacillus. Tests were made as to the agglutinating power, pathogenic action and all peculiarities of Type I. He thinks that it is more closely allied to bacillus typhosus than to B. coli communis, but it differs from the former in being less markedly motile and losing its motility more rapidly; it is also more uniform in its generation of indol. After acid production in milk it gives rise to gradually-increasing alkalinity. It is inactive to blood-serum in typhoid cases, but reacts from serum in the dysenteric cases to which bacillus typhosus does not respond. He is inclined to think that acute dysentery is caused by this bacillus, while the most frequent type of chronic tropical dysentery is more likely to be due to the ameba. The serumtherapy has been experimented with by Shiga, who found in 65 cases decided reduction of the death-rate by this means. Flexner thinks that more benefit is likely to be derived from a sort of vaccination of those that are to be exposed to the endemic or endemo-epidemic dysentery of the tropics.

23. **Ventral Hernia.**—The improved technique of Johnson is described as follows: Ventral herniæ may be considered as median and extramedian: the former following median abdominal incisions; the latter resulting mostly from operations for appendicitis. An elliptical incision is made a little within the border of the opening in the abdominal wall. This must be done carefully, as there is frequently a loop of intestine adherent to the inner surface of the hernial sac. The skin and superficial fasciæ—if they can be distinguished—are then dissected back, exposing the sheath of the rectus muscle. On the outer side a similar dissection is made an inch or more over the external oblique. The edges of the opening are trimmed and a No. 25 silver-wire suture is inserted at the upper angle of the opening by lifting the abdominal wall and passing the needle through the peritoneum, rectus muscle and skin, about one inch from the free border of the opening. The needle on the other end of the wire is similarly passed through the abdominal wall on the opposite side. Silver-wire sutures are inserted at intervals of one inch throughout the entire length of the incision. All the subcutaneous tissues are then united by a continuous kangaroo-tendon suture, and the skin is closed by a continuous suture of the same material. The deep wire sutures are now taken up one by one, moving them back and forward, to make sure that a loop of gut is not included between the wire and the abdominal wall. The ends of the wire are wound around a piece of ivory on either side and drawn sufficiently tight to relieve the tension on the kangaroo-tendon stitches. This is the old and nearly obsolete "quill suture" used for a new purpose. Half the wires are removed in ten days and the remainder in fifteen days. When the hernia is in the median line the principle is the same. The object is to relieve the tension on the stitches which hold the muscular tissues together until firm union has taken place.

24. **Chronic Rheumatism.**—Walsh recognizes four types of conditions diagnosed as chronic rheumatism: 1. Recurring subacute rheumatism. 2. Symptoms of abarticular rheumatism, which occur over and over again during unsettled weather, especially in children. 3. This group is the one that really deserves the name. It contains the cases in which the joint-lesions that have occurred during an attack of rheumatism persist and even become worse by secondary degenerative processes continuing through years, sometimes leading to marked and lasting deformity. In this case the main point is to get the history of the original rheumatism. 4. This last class is not rheumatism in its proper sense, but includes various ailments characterized by pain, including forms of toothache, flat-foot, occupation neuroses, etc.

25. **Healthy Habitations.**—Engelmann's article is a plea for the reform of the lodgings of the poor, pointing out the defects that exist and suggesting their remedies.

26. **Gastroptosis.**—The treatment of gastroptosis described by Lincoln consists in removing pressure at the waist, good nourishment, relief from constipation, exercise, massage, electricity, bromids to relieve nervousness, tonics, etc. For mechanical treatment he has devised and describes a bandage, or rather a plaster application, in place of the binder, the results of which he thinks are more gratifying. Its action is to produce upward pressure on the lower abdomen.

29.—See abstract in The Journal of August 4, p. 293.

30. **Cancer of the Breast.**—The history of the treatment of cancer of the breast is noticed by Gage, who points out that two objects are to be aimed at: prevention of local recurrences and securing of longer immunity from disease. He analyzes some of the statistics that have been published, showing that with more thorough operation the local recurrences are less likely to happen and says also that there has been a steadily increasing percentage of cases that have passed the three-year limit without recurrence of the disorder. He believes that while the results are yet not what they ought to be, they are sufficient to convince him that in the thorough and complete removal of cancerous breasts we have a means of offering longer immunity from cancerous affections to a large proportion of these patients.

31. **School Chairs.**—The improper construction of school seats and their hurtful effects are noticed by Stone, who points out that lateral spinal curvature almost always originates during school life. The great defect has been in the failure to recognize that any attitude, no matter how good in itself, can be long maintained without causing fatigue, and he mentions especially the need of proper chair-backs. There are two essentials for consideration—under no circumstances should the shoulders be forced forward, that is to say, there should be a firm support for the sacrum and lumbar region, and at the same time there should be moderate support for the dorsal region up to the shoulder-blades. In this way the liability to round shoulders would be decreased and account is taken of the fact that full extension of the spine tends to prevent lateral curvature while flexion allows it. As an illustration he notices the typewriter chair-back, which has been found to be a financial success, as it meets the physical requirements.

36. **Antitoxic Globulins of the Blood-Serum in Diphtheria.**—Park has experimented with the use of the antitoxic globulins of the blood-serum instead of the whole serum, using

it diluted so that each cubic centimeter contains the same number of units as the original serum. He finds it rather more irritating, but otherwise equally efficient so far as the diphtheria is concerned, while the globulins retain their antitoxic properties for the greater part of two months. It is easily soluble and can be put up in tablets and thus readily transported. On the whole, however, his results are somewhat disappointing, as the globulins apparently contain a great number of the deleterious elements of the blood-serum and it does not appear that we can isolate these to any advantage in this way. The practical advantage appears to be that in this substance we have a soluble, permanent and compact dried antitoxin serum which will not quickly deteriorate.

41. **Railroad Injuries.**—Sinkler describes the condition of traumatic hysteria and neurasthenia, more especially in their medicolegal aspects. While he admits that absolute simulation is perhaps a rarity, he thinks exaggeration is extremely frequent, and mistakes are made sometimes greatly to the damage of the corporation sued. Usually, and probably in the majority of cases, the patient unconsciously exaggerates his condition. He reports the case of a would-be pensioner who was exposed by etherization. In making the examination of a patient who has been in an accident, the expert would best see him alone. He should be allowed to give a full account of the injury and its symptoms, carefully observing his manner and condition, and after the removal of the clothing, examine for scars, malformations, deviations of the spine and muscular rigidity, reflexes, sensibility in particular, etc. If the case is difficult to correctly diagnose, it is well to get the patient's consent to take ether on some pretext and this usually is infallible. The physician ought never to act as assistant and prompter to counsel and should try to be as impartial as possible. In conclusion he urges every one to discourage litigation on either side, as it has a bad effect, even when the injury has occurred, by keeping up suspense and expectation. We must always remember, too, that hysteria is not a fraud and does not exclude the existence of organic disease.

43.—See abstract in THE JOURNAL, xxxiv, p. 1130.

48.—See abstract in THE JOURNAL, xxxiv, p. 1338.

49. **Uterine Dislocations.**—First stating the normal relation of the uterus and the cause of its backward displacement, Hill holds that we must first remove the etiologic factors. When adhesions exist they must be thoroughly destroyed and the abdominal is better than the vaginal route for this purpose. When the cervix is drawn forward we should direct our efforts to overcoming this condition, which is usually done by repeatedly and forcibly carrying the cervix backward, though it may take time and trouble. The use of the pessary is described, and for operative procedure for shortening of the round ligaments he prefers the Alexander method. Vaginal fixation of the uterine body is condemned and ventrofixation he considers unscientific and illogical in principle, though he recommends it in old retroversions with adhesions, long uterosacral and small, round ligaments. He does not favor operating on the uterine tissue itself by removing a plug from the opposite wall.

50. **Conservative Operations on Ovaries and Tubes.**—From a review of 85 cases, Burrage deduces the following conclusions: 1. It is advisable to do conservative operations in all cases in which the ovaries and tubes are not hopelessly diseased in all parts of their structure, except in patients who are near the menopause, on patients who have pronounced gonorrhea of long standing, and on the rare cases of malignant disease. 2. When a patient is near the menopause—over 35 years of age—and has ovarian or tubal disease of any considerable degree of severity, it is generally wiser to perform complete removal, with or without hysterectomy, according as the uterus also is diseased or not. 3. In cases of well-marked gonorrhea of long-standing, especially if the patient is constantly exposed to reinfection, if both tubes are seriously diseased and closed, total removal with or without hysterectomy is the operation of choice. 4. In certain cases of this class where the patient thoroughly understands the likelihood that another operation may be necessary at some future time, and wishes to take the chances in the hope of preserving the function of menstruation, conservative operation is permissible. 5. If one tube is patent and healthy in appearance and there is enough healthy ovarian tissue to preserve, a conservative operation ought to be performed even in the presence of gonorrhea. 6. With present methods of performing resection of the tubes, if both tubes are found closed at the time of operation, subsequent pregnancy is not to be expected. 7. In severe grades of inflammation of the appendages, irrespective of causation, if the ostium abdominale of one tube is patent, the prospect of subsequent pregnancy after the preservation of a portion of ovary is about one in four and a quarter, or 23.5 per cent. 8. In the less severe grades of inflammation, under similar conditions of tube and ovary, the prospect of subsequent pregnancy is about one in two and a quarter, or 44 per cent. 9. In women who have borne children, in both classes, subsequent pregnancy may be expected in 35 per cent., whereas in the previously sterile it may be looked for in only 5 per cent. 10. If it is necessary to remove both ovaries, it is of no advantage to preserve any portion of tubal tissue, but, except under conditions just enumerated, some ovarian tissue should be preserved in every case.

52. **Hernia in Children.**—Balloch concludes from his study of the subject that hernia is not an infrequent condition in children and of the different types, the umbilical is generally cured without operation, the femoral never, and the inguinal in from 70 to 80 per cent. of the cases. In view of the serious handicap in the battle of life caused by hernia, it is justifiable and proper to recommend operation for the radical cure in children who have faithfully worn a truss for two years without benefit. The mortality is less than would result from accident if operation was neglected.

62.—See abstract in THE JOURNAL, xxxiv, p. 689.

66. **Venous Pulsation in the Fundus Oculi.**—After two years' study of his clinical observations, Weymann makes the following report, in substance: Venous pulsation on and about the disc is very common, perhaps more frequent under ordinary physiologic conditions. It is most easily seen in physiologic excavations, and where the veins twine around the arteries or make a loop as they emerge from the crater-like center of the disc. In such places the veins look darker, owing to the doubling of the blood-column due to superimposition. The venous pulsation differs from the arterial pulse seen in hypertension of the ball. The latter is a true pulse, quick and flash-like, synchronous with distended arteries, while the former, though equally frequent, is not thus synchronous. It appears later, is slow and heaving, and easily followed in its wave. It is most prominent where the veins are largest and is lost as the caliber diminishes, hence the condition is not a true wave caused by internal distension. It is not a true pulsation, but is without doubt produced by such. The pulse expansion compresses the lumen of its accompanying vein, which action, in damming up the venous flow, becomes more accentuated by the circumstance that it travels in the direction opposite to the venous current. Whenever the two vessels are sufficiently far apart, no such effect can be produced.

71. **Pterygia.**—Weymann advises the removal of all pterygia; though they may become sometimes non-progressive, undue procrastination may have serious consequences. The methods for destruction of the head may vary, but they should all produce a thorough and smooth removal, be entirely free from danger, and cause sufficient plastic reaction to result in a firm scar opposing conjunctival traction. The best means, in his opinion, is a very thin galvano-cautery knife, with the blade bent about 45 degrees to its insertion, and it should not be held any farther from the fingers than about two inches to do good work. A full-fledged pterygium excision is the only correct plan, and the following operation is described as the most radical one, in his opinion: After cocainizing and flooding the conjunctival sac, to remove the excess of alkaloid, the neck of the pterygium is grasped with an iris-forceps and gently pulled from the ball to avoid cutting healthy conjunctiva. A very narrow and sharp-pointed cataract knife is made to pierce the tissues in such a way that the neck is separated from the adjoining healthy lining without any loss of the latter. A pair of scissors is started at the incisions and caused to delimit the

growth, both below and above, nearly as far as the plica semilunaris. From this point both incisions are joined by two converging cuts meeting at, or near, the caruncle. Raising the inner end, the operator now separates the growth from the eyeball as far as the head, always tensing it as he clips adhesions, with the scissors against the pterygial body. The head is detached by a slow, see-saw motion of an ordinary cataract knife or lance and the roughness of adjacent parts worn down by the galvano-caustic spatula. After flooding the eye, inspection will show an amount of subconjunctival vascularization and it will be seen that, in bad cases, it reaches farther over the globe than did the body of the pterygium. This vascular matting should be pulled out and thoroughly excised. A tenotomy hook is now passed under the lining to be approximated in order to break up adhesions. Near the sclerocorneal junction smart traction is made to allow the unobstructed passage of the scissors for the "accommodative incisions." Four or five sutures are then passed—not thicker than No. 6—by a curved round needle, to avoid cutting and tearing the membrane. The first stitch should be as close to the corneal margin as the accommodative incisions will allow. A pair of very small curved scissors will now be made to detach the conjunctiva along the limbus corneæ, both above and below, for a distance of nearly one-fourth the total circumference. This is followed by immediate elastic retraction of the flap-angle thus freed, but owing to the fact that the stitches are already correctly placed, approximation must be perfect. The sutures should be tied first either at the center or the inner canthus. The stitches are removed on the third day. Occasionally one will be found to have cut through, but no damage is done. The operation must be thoroughly aseptic. He claims that this operation leaves the eye in a nearly normal condition without danger of relapse, that post-operative reaction is very mild, and that it is applicable to all cases except where the pterygial body is very wide and no tissue for approximation is available. In such cases transplantation is the only resource.

72. **Enophthalmos and Tenon's Capsule.**—From a study of the anatomy of the eye, Shoemaker thinks it probable that the orbital fascia is necessary to maintain the eyeball in its natural position, and if it becomes incapable of performing its function then enophthalmos may result. This may be the case in paralysis of the muscular fibers in the check ligaments or in nutritional disturbances leading to atrophy or relaxation of the same, which may be caused by traumatic rupture of the check ligaments or orbital tumors of the fascia, and would be especially liable to follow rupture of the posterior investing sheath of the eyeball. The combined and simultaneous action of the four recti muscles, which rarely occurs, producing spastic enophthalmos, would meet with a physiologic protest, but not with prohibition on the part of Tenon's capsule. The elasticity of the fascia may be reckoned upon in those cases of enophthalmos said by some to follow a combined paralysis of the two oblique muscles.

73. **The Nose in Ocular Affections.**—Blaauw calls attention to the importance of knowledge of the nose for ophthalmologists and the method in which nasal disease may affect the eye with a changed secretion, with narrowing of the lachrymal duct, nervous irritation, etc.

74.—See abstract in The Journal, xxxiv, p. 688.

80. **Syphilis of the Uveal Tract.**—In seventy cases of syphilis, Vaughan finds the uveal tract involved twenty-nine times, or in 41.4 per cent. Twenty-one of these twenty-nine were cases of iritis or cyclitis, the left eye predominating. Hypopyon existed in two of these cases, eight and five years after the infection, respectively. His experience accords with that of Schmidt-Rimpler, that in iritis with the formation of nodules, as a rule, true gummata are not present, and he includes in his syphilitic cases all that occurred after infection but responded to specific treatment. The symptoms vary very little from iritis due to other causes. Syphilitic choroiditis is always exudative; he has never seen a purulent case that he could attribute to this cause, and as regards syphilitic chorio-retinitis, he thinks the process generally primarily involves the choroid and that the retina is only secondarily involved.

81. **Scopolamin and Atropin.**—From thirty cases selected from private and dispensary practice, tested with scopolamin and atropin to ascertain the relative action of the two, Rogers finds that the results of scopolamin contrast unfavorably with those of atropin. In only one of the thirty did both eyes show the same refraction under each drug. He concludes that as a final reliance scopolamin is untrustworthy.

82. See paragraph 103.

84. **Anesthetics.**—Levers gives the details of administration, favoring chloroform, and offers the following conclusions: 1. In most cases chloroform is to be preferred to ether, as it is more pleasant to patient, the after-effects are less marked, and we believe, if statistics were accurate, it would be equally as safe as ether. 2. Where possible, the patient should be prepared for the anesthetic. 3. One of the most important and successful steps in the administration of an anesthetic is to secure the full confidence of the patient. 4. The anesthetist should not be made nervous by the surgeon's suggestions. 5. Chloroform should be given slowly, with plenty of air, by the "drop-by-drop" method.

89.—See abstract in The Journal, xxxiv, p. 1491.

95. **Fireman's Cramp.**—This disorder is but little mentioned in journals or text-books, but it is, according to the author, a very real one to the workers in the fire-rooms of steamers. The sufferers generally undertake their duties when in a deteriorated condition from shore excesses and are subjected to the most serious conditions of temperature and exposure otherwise. Cummings, finding the stock remedy for this disorder to be something akin to "sun cholera mixture," he sought for a substitute which could be freely used without leading to gastric and bowel disturbances. The one he devised consists of the following prescription: 256 gr. each of calcium, sodium and potassium phosphates in one gallon of water, with an excess of ortho-phosphoric acid. For the use of nine men in four hours, 6 ounces was put up in nine gallons of water containing oatmeal and ice, if available, each man drinking appproximately a gallon of water during watch, which would give about 3.5 drams of phosphate solution per man. The effect was immediate, and "phosphose," as they called it, was in daily demand. It was observed during the time of its continuous use that the men would not use it occasionally for several watches; when asked why, they said that they didn't feel the need of so much of it, as what they had already taken had braced them up sufficiently. He claims, by the use of this mixture, he has relieved colic and cramp and stimulated a natural desire for food and in consequence that he got more and better work from a class of men whose labors and pains are but little understood by those who know only the saloon-deck life of the sea.

96. **Amelia.**—Ballantyne reports the result of examination of a kitten in which the right forelimb was absent, and reviews the reports of others who have observed the condition of the cord in some instances in the human subject. The conclusions to which he comes are largely negative. If the changes in the spinal cord are absent, this can not be said to prove that the absence of the limb is due to arrested development of the central nervous system, or an atrophic center does not prove that arrested development of the cord is the cause of this deformity. The third theory is that the pressure of the amnion over that part from which the limb springs causes complete or partial lack of development. This theory also is not absolutely supported. His study of the question leaves it in the following state: In some cases, absence of the limb may be due to, or associated with, defective development of the corresponding part of the spinal cord. In other cases, pressure from the amnion often prevents the growth of the limb or a part of it, therefore causing injury in the cord, and in yet other cases, especially in the absence of one or more digits, the defect may be due to amputation of the parts by amnion bands or other agencies *in utero*, and the changes in the cord be secondary.

97. **Secondary Syphilis.**—According to Frick, secondary syphilis should be classed with eruptive fevers. The importance of being able to recognize secondary eruption is shown by considering the fact that it is frequently the first intima-

tion of the disease, the primary sore having been too obscure to be recognized. This is the specially contagious period of the disease and the period for active treatment. Macular eruptions are usually the earliest manifestations of secondary symptoms, and he calls attention to the importance of condylomata lata as a diagnostic feature. The mucous patch comes near being a constant factor and is sometimes difficult to control. He has had serious trouble with syphilitic paronychia. Mercury must be our sheet-anchor in this stage, but must not be pushed to the patient's disadvantage. Where patients can not use the drug internally, he uses inunctions, also Turkish baths. He does not like the hypodermic method, and would not use it except where a very rapid effect of the drug is required. Frequently a good tonic is of benefit along with the mercurial treatment. Iodids are not indicated until very late in the secondary stage.

98. **Insolation.**—Simpson describes the symptoms of thermic fever, which is common in children, of heat prostration which may or may not have a high temperature, and of true insolation, or sunstroke. In the first-named rapid stimulants which act on the skin will suffice to establish the equilibrium. Caffein. ammonia, champagne, cool cloths to the head and something cool to drink will soon set the patient right. The digestive disturbances need not be seriously regarded. Practically the same holds good for heat prostration. A cold douche to the head followed by ice-cloths, cool sponging and some rapid stimulant will usually be sufficient. Drugs may be given subcutaneously if necessary. There are occasionally cases of meningitis following such attacks, but it is not certain they are caused by them, as they may have pre-existed. The most disagreeable effects of heat prostration are usually neurasthenia and hysterical symptoms. True sunstroke, however, is different; it almost always leaves defects. The treatment is substantially the same as that of the other forms, only more urgent and thorough. He does not believe in bleeding or transfusing sunstroke patients. When the patient is placed in bed, he must be watched, and when the temperature has been reduced to 102 or 103 F., the necessity for further reduction is not great, and should be proceeded with judiciously. As soon as the return of consciousness and respiration is established, the danger of immediate fatal issue is over. Judicious stimulation should be administered. After consciousness has returned the patient must receive the same care as a patient suffering from severe febrile disease. The urine and perspiration must be watched. Bad results may come later.

100.—This article has appeared elsewhere. See The Journal of August 4, title 81, p. 319.

103. See paragraph 82.

104. **Drainage of the Abdominal Cavity.**—The literature of drainage of the abdomen is reviewed by Sharpe, who considers that it is definitely and positively indicated in selected cases, such as special gall-bladder conditions, weakened intestinal walls, intestinal suturing of special character, and various other pathologic states. He thinks that, however, as a routine policy it is capable of great restriction by permitting our technique to be governed by a series of rules in accordance with these suggestions: 1. Better protection of non-infected areas. 2. Better cleansing of infected areas. 3. Better covering-in of raw surfaces. 4. Better hemostasis. 5. Greater attention to details of operative asepsis. 6. Greater gentleness and skill in operative technique.

113 and 114. **The Watery Extract of Tubercle Bacilli in Phthisis.**—Osborne has followed Von Ruck's method of treatment in tuberculosis with, as he thinks, great advantage. He believes the superiority of true tuberculous substance in the form of watery extract is attested by unmistakably better results in clinical employment as well as in the animal experiments of Von Ruck. In a letter following Osborne's paper, Von Ruck argues that antitoxins are ineffective in phthisis, since the symptoms of the disease are not due to absorption of the bacillary toxins. He thinks, therefore, that since the symptoms in all stages of the disease react to these latter, this is evidence in favor of his view. He holds also that the direct injection of toxins produces immunity and is therefore justified from a therapeutic point of view.

119. **Stenosis of the Pylorus.**—Bettmann criticizes the surgeon's idea of stenosis of the pylorus, that it occurs so frequently and just so often requires operative interference. Medical experience, he thinks, does not bring out these conclusions, and an appropriate abstinence treatment and enforced rest would, in many cases, have as efficient effect as the operation itself. The subject, he believes, is not sufficiently treated in text-books.

122. **Corneal Ulcerations.**—The general principle of the treatment of corneal ulcers, of which Tennent gives the various types, is to begin treatment, especially in acute cases or in strumous children, with a mercurial. Find out the cause. In children and most adult cases internal medication is more important than local measures. Mercury has the widest application internally and next to it tonics and reconstructives. The local measures consist in: 1, preservation of cleanliness; 2, relief of pain; 3, application of mildly stimulating remedies; 4, scraping with an application of stronger stimulants and antiseptics; 5, cauterization.

123. **Laryngeal Phthisis.**—The treatment recommended by Cheesborough for this condition consists in first watching the general health of the patient, giving tonics and digestants when necessary, and large quantities of nourishing and easily digested food. Well-directed exercise and plenty of fresh air in a suitable climate should be insisted upon. Creosote he holds of value in every case of tuberculosis when carefully and properly administered. Begin with a few drops and increase the dose daily until the patient begins to suffer from some gastric disturbance, then go back to the small doses and gradually increase again. Nearly every patient can take creosote thus administered. For local use he employs alkaline and antiseptic washes to thoroughly cleanse the nose and throat, following these by inhalations of glymol with menthol, and ether or iodid and ether, or other drugs found to be soothing, and an anodyne for checking the cough. In a certain percentage of cases the curette and lactic acid are necessary. His method is to first curette and begin with a 3 per cent. solution of lactic acid, gradually increasing its strength as required. It is often necessary to use local anesthetics when curetting. Laryngotomy, laryngectomy and tracheotomy should be limited to only the most exceptional cases.

127. **Static Electricity.**—Lowder claims great success with static electricity in neuralgia and headache, using a sort of general electrization. He claims that he has cured about 85 per cent. of his selected cases. For rheumatism he relies almost altogether on electricity and in painful menstruation he has never had such beneficial results from any other remedy. Other disorders which he claims to have successfully treated in this way are insomnia, amenorrhea, malaria, incipient colds, senile debility, bronchitis, gastralgia, cardiac disorders, heat prostrations, etc.

FOREIGN.

The Lancet, August 25.

Pathology and Therapeutics of Scurvy. A. E. Wright.—In defense of the theory formerly maintained by him that scurvy is a condition of acid intoxication with deficient alkalinity of the blood, Wright undertook a series of blood examinations and therapeutic experiments on cases which came under his control in the Army Hospital at Netley. The normal alkalinity of the blood is such that the addition of one volume of normal acid thirty-five times diluted to an equal volume of serum just suffices to deprive that serum of its power of blueing sensitive litmus paper. Seven cases of marked scurvy were tested and in each case the alkalinity of the blood was found strikingly reduced, and in all, excepting in one where there was reason to suppose that the drug was not dissolved, a decided amelioration followed the administration of lactate of soda and other similar substances. Certain subsidiary points were also noticed. In three of the cases there was a dysenteric complication, but this differed from the ordinary dysentery in its clinical features and also in the fact of reduced alkalinity of the blood. In one of the cases it appears that the scorbutic conditions could supervene and complicate typhoid fever.

The Pathogeny of Gout. Dyce Duckworth.—The pathogeny of gout and its theories are discussed by Duckworth, who sums up his own conceptions in regard to it as follows: "That gout as a morbid condition, depends on an inherent vice of nutrition, which is manifested by an imperfect metabolism in various organs or parts of the body, presumably in the kidney and probably in the liver. That this trophic disorder or inadequacy—*ralentissement de nutrition*—leads to the formation of uric acid, probably in excess, and to the periodic retention of it in the blood—gouty uricemia. That histology throws no light on the intimate nature of this defect, which thus relates to cellular potentiality, possibly under neurotrophic influence, and not, so far as we know, to structural alteration. That this textural disability, or a tendency to it, may be primarily acquired and also transmitted as a fault, thereby inducing from time to time uricemia with gouty manifestations in the descendants. That in most instances, under conditions which provoke it, and in some cases independently of these, attacks of gout may grow up and come to a crisis. Such crises are attended by an alteration in the solubility of the uratic salt in the blood, whereby irritating crystals of biurate of sodium are produced and precipitated in various parts of the body. That a paroxysm of gout, the sites of its occurrence, and its metastases are determined by nervous influences, probably dominated from a bulbar center, and that the local attacks alight either in the joints or in textures which have been weakened or rendered vulnerable by impaired nutrition owing to past injury or over-use. That this central neurosis is an essential and transmissible feature in the pathogeny of gout and pertains to the arthritic diathesis generally. That the uricemia of gout is peculiar and unlike that which is induced by other morbid conditions, but that the occurrence of uricemia in the gouty is by itself inadequate to induce attacks of gout. That uratic deposits may occur to an enormous extent in gouty persons without the occurrence of any pain or paroxysms. That the clinical features of gout indicate that both hemic changes—due to inherent morbid tissue metabolism —and a neurotrophic disturbance act as pathogenic factors, and that consequently gout is to be regarded as a neurohumoral malady."

Diphtheria in the Horse. Louis Cobbett.—The author examined the cultures of the bacillus found in a nasal discharge of a pony, which appeared to be entirely identical with that of diphtheria. The animal had purulent, slightly sanguineous, nasal discharge, subsequent enlargement of the glands under the tongue, laryngeal obstruction, difficulty of breathing and contraction of the abdominal wall. He concludes from his study of the case that the horse is liable to nasal and laryngeal diphtheria, and that this is of practical importance since it points out a hitherto unsuspected channel of conduction of the disease to man. It also has a bearing on the question of the origin of antitoxin. It is well known that the serums of normal men and horses which have never been immunized often have the power of neutralizing diphtheria toxins and it is shown, in the cases of horses at least, that this defective serum unites with toxoids as well as with toxins proper, just as does the serum of immunized animals, that, in a word, it contains true antitoxin. The diphtheria antitoxin found in many is probably due, as Wassermann has suggested, to some previous attack of diphtheria, possibly not recognized, and that found in the placental blood of infants may have been due to the mother having had the disease. Now that we find the horse is subject to diphtheria, the presence of antitoxin in its blood-serum is easily explained.

Enteric Fever. Derwent Parker.—The author gives his experience with 100 cases of enteric fever treated by him in South Africa. One of the first points noted is the great difference in the virulency of the attack according to the district from which it comes, those from certain regions having been almost all of severe type, while the later cases, no matter where they came from, were milder than those of earlier date. The most severe cases were infinitely worse than any he had seen in England. One patient had seven distinct perforations, and two, had they lived longer, would have had even more, as every Peyer's patch in the last few feet of the small intestine was gangrenous. The hospital was situated at an elevation of 4500 feet and was made up of tents with excellent ventilation. Lung complications, however, were very rare. All the patients took 5 minims of carbolic acid in water three times a day. He found that to some extent carbolic acid appeared to have a tendency to increase the frequency of hemorrhage, but on the whole he thinks its effects are good. Apparently brandy was the most useful stimulant. Transfusion with normal salt solution he thinks, can save a great many lives in cases of severe hemorrhage. From his studies of the effects of inoculation he finds the death-rate among the inoculated 2 to 3 per cent. lower than that of the non-inoculated, and while, the average temperature for the first ten days was 0.9 per cent. lower, it was 5.4 days longer before becoming normal. He does not consider inoculation as at present practiced a striking success.

Janus (Amsterdam), August.

Organotherapy, Past and Present. H. Grasset.—The question of internal secretions is intimately connected with that of organotherapy, but no one seems to comprehend the important relations between the soluble ferments and these questions. A. Bechamp has explained the transition between the medical traditions of the ancients in respect to organotherapy and the facts discovered, but erroneously interpreted, by modern bacteriologists. He asserts that the cell is not the organic vital unit. It is, according to him, an association of autonomous and independent organisms, which he calls "microzymes." Each secretes its soluble digestive ferments or zymases, which allow it to modify the medium in which it lives, and assist in its absorption, assimilation and growth. Each zymase characterizes the physiologic function of the microzyme in the cell and in the organ, the function varying with the species of the animal and the age of the individual. Grasset accepts this theory and adds that these soluble ferments are excessively fragile; the slightest cause destroys them. Chemical or physical manipulations injure or kill the vital principles in the organs and hence the present methods of extraction for therapeutic purposes are all defective.

Annales de l'Institut Pasteur (Paris), July 25.

Sero-Agglutination in Pneumococcus Infection. F. Bezancon and V. Griffon.—The Widal agglutination test is not applicable to pneumococcus infection, as the phenomenon is not sufficiently marked to be evident in diluted serum. But with cultures of the pneumococcus in non-diluted serum the reaction becomes very distinct. Tests on 186 persons demonstrated, however, that the serum agglutinates most decidedly, and in some instances exclusively, the pneumococci derived from the individual lesion. This individuality in respect to the agglutinating reaction which has been established for the pneumococcus and bacillus coli, throws light on the disputed question of the unity or plurality of streptococci. The serum of animals vaccinated against the streptococcus seems to have real preventive or curative action only against the special streptococcus that served for the vaccination.

Influence of Tetanus Toxin on Central Nervous System. M. Joukowsky.—The only modification in the nerve-cells constantly noted in this experimental research in Metchnikoff's laboratory was an accumulation of migrating, mononuclear cells around the nerve-cells and their penetration into the protoplasm of the latter. The phenomenon was most marked in the anterior horns and most intense in chronic intoxication. It is probably the expression of the mononuclear phagocytosis which develops under the influence of the toxin in the nerve-cell and is a sign of diminishing cell vitality.

Bulletin de l'Academie de Medecine (Paris), August 14.

Physiology of Cervical Sympathetic. T. Jonnesco and T. Floresco.—Applying to man the technique of experimental research, the Bucharest scientists have established the identity of the functions of the cervical sympathetic in man and in animals. Their subjects were patients on the point of having sympathectomy performed. The member of the Académie who presented their article in a condensed form, remarked: "It is not without a certain emotion that one follows the authors in the recital of their experiences, and imagines the patient under the influence of choloroform, undergoing the various operations performed for experimental purposes on the cervical sympathetic and its ganglia, with graphic exploration of the heart action and respiration, and of the pulsation of the exposed brain. If the results attained prove to be valuable beyond dispute and do not require confirmation, one must not criticise the authors unfavorably for the hardihood of their attempts. At least they had no serious consequences for the patient, such as follow experimental, direct, electric stimulation of the brain, and consequently can not be condemned, as the latter justly is." The research demonstrated that stimulation of the superior stump of the sympathetic after resection produces the same effects as stimulation of the intact nerve. The vasoconstrictive action of the sympathetic on the brain was also demonstrated, and the fact that weak stimulation has the opposite effect, i. e., the smaller vessels are dilated, similar to the influence of the same nerve on the superficial circulation. When the heart has been accelerated by stimulation of the sympathetic, it is not retarded by the section of the nerve. Injection of pilocarpin induces sweating on the sound side but not on the operated side after section of the sympathetic and subsequent degeneration of the sweat fibers. The most important result of their research is the demonstration that no appreciable nutritional modifications occur in the regions innervated by the resected nerve. This latter statement needs confirmation. Surgeons should take special pains to follow their patients after sympathectomy to note whether there is deterioration in the functional activity of the brain and ocular apparatus.

Herpes in Infectious Diseases. E. Vidal.—By the term "herpes" Vidal expresses the attempt of the tissues to eliminate foreign bodies, whether it takes the form of an eruption on the skin or a morbid process in some internal organ or tissue. This manifestation is especially characteristic of la grippe. The bacillus penetrates into the organism by some unknown means; the struggle begins, fever lights up, the organism tries to expel the foreign bodies and the cycle is completed by the herpetic eruption within or without. This eruption produces solutions of continuity and any secondary germs which may happen to be in the vicinity find an easy entrance through them into the tissues. If the herpetic eruption happens to be in the lungs, for instance, and the pneumococcus is present, secondary pneumonia is liable to develop, as the germs invade the capillaries, with possibly further infection by them of the arteries, peritoneum, kidneys and spleen. "This conception explains many otherwise inexplicable problems in infectious processes, their successive localizations on different organs, recurrences, etc., and should be accepted until the contrary is proved."

Antisepsis for Contagious Diseases With Only Partial Isolation. Grancher.—The results obtained by Grancher in a medical ward at the Hôpital des Enfants during the last ten years—in comparison with the preceding ten—confirm his assumption that contagion is seldom if ever air-borne, but occurs solely by direct contact. The ward is frequented by students, is in an old building, and children with measles, diphtheria, scarlet fever, whooping-cough, bronchopneumonia and mumps are received indiscriminately, but contagion from one to the other is extremely rare. In ten years there has only been one case of diphtheria, scarlet fever or mumps from this cause, seven of whooping-cough and 1 to 3 per cent. of all the cases of measles. The latter is the most difficult disease to manage, as contagion may occur before the diagnosis is possible. He treats a patient with one of these infectious diseases as he would a wound, and applies antisepsis in the same way, with partial isolation. A lattice-work screen, about four feet high, is placed around the bed, entirely enclosing it. This prevents contact between the children and reminds the attendants that certain precautions are necessary before entering the enclosed space. These precautions are to put on a blouse, which is kept permanently in the "box," and to wash the hands with soap and a 1 per cent. solution of sublimate. All the dishes used by the child are disinfected with boiling water, while the bedding and dismounted bed are sterilized in the oven. The paraffined floor and the walls are washed off twice a week with the same solution of sublimate. This idea that contagion is objective and not atmospheric, and that it can be controlled with antisepsis, should dominate in the care of all hospitals for children.

Revue de Gynecologie (Paris), July-August.

Study of Autoplastic and Temporary Sutures. L. Dartigues.—After reviewing the various methods, Dartigues asserts that temporary sutures best fulfill the condition for noninfection of the wound in operating for hernia, the incision as short as possible, extensively freshening the rectus muscles and suturing the inner margins together, and above all, securing perfect hemostasis. For esthetic reasons the suture should be as low and as intradermic as possible. He commends Segond's practice of combining an autoplastic suture of the deep tiers, with a couple of figure-eight silk sutures above, and a superficial suture of silver wire. The figure-eight stitch is especially useful for hysteropexy. Among the forty-one illustrations are two portraying the old corkscrew method, showing the corkscrew inserted to close the inguinal wound, burrowing through the deep tissues and removed as the wound healed. It crudely answered the purpose of the modern metallic, removable sutures.

Remote Results of Abdominal Hysterectomy for Cancer of the Cervix. C. Jacobs.—Every one of 70 patients with cancer of the uterus, treated by vaginal hysterectomy, died of recurrence within a few months; only two survived as long as two years. On the other hand, out of 52 abdominal hysterectomies 13 are still alive without a trace of recurrence—several operated on more than twenty-seven months ago. The recurrence in the rest was torpid and comparatively painless. Jacobs urges immediate intervention if on several occasions the cells in the vaginal or glandular secretions are found enlarged, irregular and granulated, isolated or connected by strips of newformed tissue. He never performs hysterectomy unless convinced that the lesion is restricted to the uterus. He removes the organ in two portions after severing the ovarian arteries, dividing it above the internal orifice and thermocauterizing the cavity of the cervix before proceeding.

Pulmonary Embolism After Fibromectomy. G. Michel.—Postoperative thrombosis may be feared in women exsanguinated by repeated metrorrhagias induced by a large fibroma compressing the organs in the small pelvis. The thrombosis may be in the pelvic veins, in which case the absence of valves renders it generally fatal. Only three cases of pulmonary embolism from this cause have been known to recover. There are 13 deaths on record from pulmonary embolism consecutive to the removal of fibrous tumors of the uterus, out of a total of 568 abdominal or supravaginal operations, and seven deaths in 209 vaginal. The heart is usually degenerated in these patients, and, as it is unable to overcome the obstacle in the circulation by stronger contractions, can only accelerate the beat. The rapid pulse in contrast to the normal temperature is the sole sign of a hidden thrombosis. Before undertaking any gynecic operation the vascular system should be examined. If the veins are hard and painful, the pulse rapid, with more or less edema of the lower limbs, intervention should be postponed if possible, until conditions are more favorable.

Centralblatt f. Bakteriologie (Jena), July 11.

Experimental Research on Rabies. V. Solomon.—Galli-Valerios recommends inoculating animals with rabies on the nasal mucosa as the most effective method and the least dangerous for the operator. Leclainche's intracranial method is also exceptionally effective. Both normal and pathologic bile have a neutralizing influence on the virus of rabies.

Centralblatt f. Inn. Med. (Leipsic), July 14.

Urotropin in Cystitis. B. Goldberg.—The experiences described suggest an explanation for the contradictory results attained by others with urotropin in the treatment of cystitis. Goldberg found that 40 per cent. were cured and all the rest materially improved in his 54 cases of cystitis due to primary bacterial invasion of healthy organs. It also proved effective when the cystitis was consecutive to other affections if combined with other measures. But it was useless in secondary cystitis with ascending infection or incipient urinary intoxication.

Acute Effusions in the Pericardium. F. Aporti.—A series of tests on cadavers showed that it is impossible to detect a pericardial effusion by percussion if the amount is less than 150 to 200 c.c. The maximum amount that can collect is 650 to 700 c.c. In a horizontal position the area of cardiac dulness spreads out in all directions, the large vessels are bathed in fluid, even with a small amount, but when the body is erect, the base of the heart is free with the maximum of accumulated fluid.

Deutsche Medicinische Wochenschrift (Leipsic), August 16.

Aneurysm Cured by Electrolysis of an Introduced Wire. A. Bernheim.—Our Philadelphia colleague describes another case of an extensive aneurysm of the aorta cured with the introduction of fine gold wire and electrolysis. It is the fifteenth instance of this treatment on record and is distinguished by the fact that the operation was repeated three times in a few months before the cure was permanent. Four of the fifteen cases were very much improved, five were cured and all relieved by the intervention—results which should encourage its further application. In the experience reported nearly nine feet of a spirally coiled fine gold wire were inserted, and the anode applied, with the cathode on the back. A current of 10 to 80 milliamperes was turned progressively on and off during one hour. The sac slightly contracted and the pulsation diminished even before the operation was concluded. The results of the intervention were examined with an exploratory puncture two months later and about the same amount of wire introduced again, and half this amount thirty-nine days afterward. The patient was dismissed four weeks after the last intervention and has resumed his business as a commercial traveler.

The Tubes in Roentgen Ray Therapy. Straeter.—In the therapeutic application of the Roentgen rays, the "soft" tubes should be selected for superficial pathologic processes, and the less "soft" for the deeper lesions. Very "hard" tubes are unsuitable for Roentgen therapy.

Is the Action of Alcohol Nutritional or Toxic? Kassowitz.—The well-known Vienna professor presents numerous arguments to prove that it is impossible for a substance to play the dual rôle of a food and a toxin at the same time, and that alcohol in particular never possesses nutritional, but always and exclusively toxic, properties.

Memorabilien (Heilbronn), July and August.

Infarct of the Lungs. C. C. Rothe.—A healthy young man was being treated for a phlegmon of the thigh, which had developed subsequent to exposure, and spread to include nearly the entire thigh, with symptoms of cardiac insufficiency. He was progressing favorably by the twelfth day, but succumbed the seventeenth to an embolism in the lungs, evidently originating in the veins of the thigh. In another patient a fatal serous effusion filled the right thorax in the third week of a mild abdominal typhoid fever. A second case of typhoid pleuritis was marked by the absence of an effusion and the evidences of thrombosis in the lungs, evacuation of drops of dark blood by puncture, etc. It terminated in recovery.

Mittheilungen a. d. Grenzgebieten der Med. u. Chir. (Jena), vi, 1 and 3.

Infusions of Salt Solution. Leonpacher.—Summarizing the experiences in 100 cases treated with infusion of salt solution, Leonpacher states that the effect was favorable but transient in 8 cases of severe burns, all terminating fatally. The anuria was not influenced by the infusion. The amount found most beneficial in acute anemia was 1000 to 1500 c.c. at 40 C., repeated several times. For chronic losses of blood, 500 c.c. at 40 C. were injected every day for a long period. The same amount was injected in collapse after operations and long narcosis. In septic affections 1000 to 2000 c.c. were slowly injected at body temperature. The effect is chiefly stimulating in this case. Local injections of 8 to 10 c.c. were made in five cases of ulcus molle. The ulcus progressed to superficial suppuration and rapid retrogression in eight to ten days in 2. In 2 others it retrogressed in fourteen to twenty days without suppuration. The fifth was a hard, indolent bubo and was only temporarily improved.

Recurrences After Gall-Stone Operations. A. Hermann.—In Hermann's experience as superintendent of the hospital at Carlsbad, he has observed eleven cases of unmistakable recurrence of biliary calculi after a successful operation from eight months to three and one-half years previously.

Carcinoma of the Skin Cured With the Roentgen Rays. Thor Stenbeck.—A healthy woman of 72 years applied for relief from a typical ulcus rodens which had been slowly developing on the nose during ten years. As she shrank from an operation, Roentgen treatment was first tried. The ulcus suppurated freely at first and then healed over in the course of thirty-five sittings, although a month more was required to banish the last traces of the neoplasm.

Experimental Contribution to the Study of Cholelithiasis. H. Ehret.—Normal bile in guinea-pigs, cattle and dogs is by no means sterile. Microbes were found in the bile of nearly every animal examined. They probably make their way from the intestines through the biliary passages. Isolated germs occasionally find their way into the bile from the circulation, but these are exceptional cases and the microbes in the bile are a manifestation of pathologic processes.

Laparotomy in Case of Tubercular Peritonitis. A. Borchgrevink.—After twenty years of special clinical and experimental study of this subject, Borchgrevink states that in the healing process the shriveling nodule becomes transformed into a loose network of fine fibers. This is gradually absorbed and the tubercle vanishes as completely as any other ordinary granulation tissue after a transient, harmless irritation. This primary healing of the tubercle, as he calls it, is of frequent occurrence in ordinary peritoneal tuberculosis unaccompanied by caseous foci. Serous tubercular peritonitis, with slight or no fever, recovers spontaneously by this mechanism, and laparotomy is superfluous. On the other hand, laparotomy is distinctly injurious in the progressive cases with continuous fever. Laparotomy should therefore be rejected in all cases. Puncture at the right moment is fully as effective. As long as the tubercle is keeping the peritoneum irritated no operation has any curative effect, but when the healing has reached a certain stage laparotomy or puncture are both equally effective.

Experimental Antiperistalsis. R. Muehsam.—A long portion of the small intestine was resected in some experiments on a couple of large dogs and, sutured in place, reversed. The results showed that the reversed intestine was able to make peristaltic movements in the direction contrary to its natural peristalsis sufficiently vigorous to propel the food along, although vomiting occurred at times, evidently from return to its natural peristalsis. In one of the animals the natural peristaltic movements were so vigorous that the upper transplanted end became invaginated in the normal distal intestine.

Monatschrift f. Geb. u. Gyn. (Berlin), July.

Uterine Calculi.—The report of the meeting of the St. Petersburg Medical Society describes several specimens of uterine calculi exhibited or cases described. In one the uterus was entirely filled with stones the size of a bean to that of a walnut. In another, multiple myomata had become "petrified" from the same cause. A fibromyoma in another case was full of a purulent fluid, the walls lined with calculi in the form of scales. A specimen in the Kazan museum was mentioned in which the petrifaction is as hard as granite.

Muenchener Medicinische Wochenschrift, August 31.

Prevention of Pneumonia After Laparotomies. G. Kelling.—Pneumonia consecutive to laparotomies in the upper abdomen may be due to infection from germs in the air, which may find their way under the diaphragm and thence into the lungs. To prevent this Kelling has studied to reduce the number of germs in the air as much as possible. His operating-room is large and the windows open on a green garden, instead of on the street. The room is heated from without. The heating apparatus does not draw its air from the room, as this would aspirate a fresh supply through the crevices. All windows are closed four hours before an operation, after the walls and floors are dampened. As soon as the abdomen is opened the cavity is stuffed with gauze to prevent the entrance of air as far as possible. The floor is kept wet, the operator and assistants wearing rubbers. Entrance is through a small anteroom with double doors. Operating is not so agreeable under these circumstances to the surgeon, but his inconvenience is far outbalanced by the entire absence of postoperative pneumonia. He had five cases occur in the corresponding period in an equal number of patients the year before he fitted up this room.

Sugar to Increase Uterine Contractions. M. MADLENER.—In three of the six cases in which the writer has employed sugar to increase the energy of the contractions of the uterus, the pains were much diminished, while the contractions were increased. The latter effect was evident in all but one, and he recommends the general use of sugar for this purpose as simple, harmless and effective.

Wiener Klinische Wochenschrift, August 9 and 23.

Total Exclusion of the Intestine. E. PAYR.—An erosion of the intestine in consequence of a deep suppurating process in the abdominal cavity demanded that the communication between the cecum and the abscess cavity should be shut off. The condition of the patient contraindicated total exclusion, and an ileocolostomy was done, the ends of the intestine closed with a circular seromuscular drawn thread. After a few days of apparent success fecal matters were discharged through the fistula. Analysis of similar cases in the literature shows that fold-sutures, draw-strings and ligatures are extremely unreliable as means of closing the ends of a section of intestine. It is far from certain that the closing of fecal fistulæ, spontaneously or with slight operative assistance, is any guarantee that the morbid process is positively terminated, unless the inside is cauterized. The cases in which the secretion in the excluded portion seems to have completely ceased, with no previous cauterizing or antiseptic measures, will be found in most instances to be due to occlusion of the fistula, while the secretion continues accumulating in the depths, even in case of a normal intestine, and there is always danger of an outbreak. In many instances the total, blind exclusion is only apparent, and in reality secondary adhesions and perforation allow the escape of the secretions. In a case of Hochenegg's a mass of fecal matters was suddenly evacuated from the supposed excluded portion, fourteen months after operation. Of the thirty total exclusions noted in the literature, two only succumbed at the time of operation. Experience with intestinal diverticula, etc., confirms Payr's dictum that the complete exclusion and blind closure of a portion of the intestine is liable to induce pathologic changes.

August 23.

Treatment of Epilepsy. M. BIRO.—Eight years of observation of the results of treatment of 185 epileptics have convinced Biro that the bromids are the best general therapeutic measure, but if they fail, Flechsig's method should be tried, resorting later to Bechtereff's, atropin or a combination of bromids and antipyrin. He comments on the periodicity in the recurrence of the seizures.

Gazzetta degli Ospedale (Milan), August 19.

Occlusion of Biliary Passages by Hydatid Cyst. L. FERRALASCO.—The hydatid cyst in the case in question had developed insidiously in the liver until it had perforated into the biliary passages, with occlusion and dilatation of the ducts from the remnants of the cyst. This had induced circumscribed purulent angiocholitis and laceration of the liver with fatal hemorrhage.

Cronica Medica (Lima), June 30.

Diazo-Reaction in Microbian Diseases. E. E. ESCOMEL.—A study of Ehrlich's diazo-reaction in eighty patients showed that the test resulted positively only in miliary tuberculosis, tubercular meningitis, typhoid fever or typho-malaria, smallpox, erysipelas and the last stages of pulmonary tuberculosis. It was invariably negative in malarial and rheumatic affections. The positive result of the diazo-reaction thus excludes certain diseases and is a valuable aid in the differentiation of typhoid fever.

St. Petersburger Medicinische Wochenschrift, August 18.

Symptoms and Treatment of Disorders Due to Trichocephalus. T. HAUSMANN.—Microscopic investigation of the feces should become a routine measure in all dubious cases and rank with the analysis of the urine. Many affections now classed as rebellious hysteria or gastric catarrh would disclose their true etiology if this were done, and would respond promptly to appropriate measures. Hausmann requests the patient to bring him a little of his feces, preferably of soft consistency, in a liqueur glass. A scrap is transferred to an object glass with a toothpick; a drop or two of glycerin is added, if hard, and a cover-glass placed over it and rubbed around a little. Eighty-five diameters is sufficient at first, increasing the magnifying power if suspicious objects are noted. The symptoms caused by the trichocephalus are manifold and simulate many affections; the only specially characteristic sign is extensive cutaneous anesthesia occasionally noted. In one of the instances he cites, a young and healthy man became emaciated, constipated, with abdominal pain and impotentia coeundi, diminished reflexes and other symptoms, becoming progressively worse as the months passed. Three days of thymol—prescribed after the eggs of the trichocephalus were found in the fecal matters—restored him to complete health, but the cure was repeated not long after as a precautionary measure. Thymol seems to have a specific action against this parasite, far more powerful than santonin or other remedies.

Books and Pamphlets.

Acknowledgement of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review as dictated by their merits, or in the interests of our readers.

BOOKS.

INTERNATIONAL CLINICS. A Quarterly of Clinical Lectures and Especially Prepared Articles on Medicine, Neurology, Surgery, Therapeutics, Obstetrics, Pediatrics, Pathology, Dermatology, Diseases of the Eye, Ear, Nose and Throat, and other Topics of Interest to Students and Practitioners. By Leading Members of the Medical Profession Throughout the World. Edited by Henry W. Cattell A.M., M.D., Director of the Ayer Clinical Laboratory of the Pennsylvania Hospital, with the Collaboration of John Ashhurst, Jr., M.D., LL.D.; Charles H. Reed, M.D.; and James T. Whittaker, M.D., LL.D. With Regular Correspondents in Montreal, London, Paris, Leipsic, and Vienna. Volume II. Tenth Series. Cloth. Pp. 300. Price, $3.00. Philadelphia: J. B. Lippincott Co. 1900.

THE RETROSPECT OF MEDICINE. A Half-Yearly Journal Containing a Retrospective View of every Discovery and Practical Improvement in the Medical Sciences. Edited by James Braithwaite, M.D., Consulting Obstetric Physician and Surgeon to the Leeds General Infirmary, and E. F. Trevelyan, M.D., B.Sc., M.R.C.P., Assistant Physician to the Leeds General Infirmary. Volume 121. January-June, 1900. Cloth. Pp. 431. Price, $2.50 per year. London: Simpkin, Marshall, Hamilton, Kent & Co., Ltd.

ATLAS AND EPITOME OF DISEASES CAUSED BY ACCIDENTS. By Dr. Ed. Golebiewski, of Berlin. Authorized Translation from the German, with Editorial Notes and Additions. By Pearce Bailey, M.D., Consulting Neurologist of St. Luke's Hospital and the Orthopedic Hospital, New York. 40 Colored Plates, and 143 Illustrations in Black. Cloth. Pp. 549. Price, $4.00. Philadelphia: W. B. Saunders & Co. 1900.

CANCER OF THE UTERUS: Its Pathology, Symptomatology, Diagnosis, and Treatment; also the Pathology of Diseases of the Endometrium. By Thomas Stephen Cullen, M.B., Associate Professor of Gynecology in the Johns Hopkins University. With Eleven Lithographic Plates and Over Three Hundred Colored and Black Illustrations in the Text. By Max Brödel and Herman Becker. Cloth. Pp. 672. Price, $7.50. New York: D. Appleton & Co. 1900.

A MANUAL OF PERSONAL HYGIENE. Edited by Walter L. Pyle, A. M., M.D., Assistant Surgeon to Wills Eye Hospital, Philadelphia. Contributors: J. W. Courtney, M.D.; George Howard F[illegible], M.D.; E. Fletcher Ingals, M.D.; Walter L. Pyle, M.D.; B. Alexander Randall, M.D.; G. N. Stewart, M.D., and Charles G. Stockton, M.D. Illustrated. Cloth. Pp. 344. Price, $1.50. Philadelphia: W. B. Saunders & Co. 1900.

A MANUAL OF CHEMISTRY: Inorganic and Organic, with an Introduction to the Study of Chemistry. By Arthur P. Luff, M.D., B.Sc., F.R.C.P., F.I.C., Physician to Out-Patients in St. [illegible] Hospital, and Frederick James M. [illegible], B.Sc., F.I.C., [illegible] the Royal School of Mines. Illustrated with 40 Engravings. [illegible] Pp. 541. Price, $1.60. London, Paris, New York and [illegible] Cassell & Co., Ltd. 1900.

ATLAS AND EPITOME OF GYNECOLOGY. By Dr. [illegible] Privat Docent of Obstetrics and Gynecology in the [illegible] Heidelberg. Authorized Translation from the Second [illegible] Enlarged German Edition. Edited by Richard [illegible] M.D., Surgeon-in-charge, Preston Retreat, Philadelphia. [illegible] Colored Illustrations on [illegible] Plates, and [illegible] Text. Cloth. Pp. [illegible] Price, $3.50. Philadelphia: W. B. Saunders & Co. 1900.

DISEASES OF THE TONGUE. By Henry T. Butlin, [illegible] and Walter G. Spencer, M.S., M.B., F[illegible] minster Hospital, Surgeon to St. Ba[illegible] Charge of the Department for Dis[illegible] Illustrated with 8 Chromo-Lithographs [illegible] Pp. 475. Price, [illegible] London, P[illegible] Cassell & Co., Ltd. 1900.

Manual of Pathology. Including Bacteriology, the Technique of Post-mortems, and Methods of Pathologic Research. By W. M. Late Coplin, M.D., Professor of Pathology and Bacteriology, Jefferson Medical College, Philadelphia. Third Edition, Revised and Enlarged. With 330 Illustrations and 7 Colored Plates. Cloth. Pp. 846. Price, $3.50. Philadelphia: P. Blakiston's Son & Co. 1900.

Psychopathia Sexualis. With Especial Reference to Antipathic Sexual Instinct. A Medico-Forensic Study. By Dr. R. v. Krafft-Ebing, o. ö. Prof. Für Psychiatrie und Nervenkrankheiten an der K.K. Universität, Wien. The Only Authorized English Translation of the Tenth German Edition. Cloth. Pp. 585. Price, $5.00. Chicago: W. T. Keener & Co. 1900.

Medical Electricity. A Practical Handbook for Students and Practitioners. By H. Lewis Jones, M.A., M.D., Fellow of the Royal College of Physicians. The Third Edition of "Medical Electricity," by W. E. Steavenson, M.D., and H. Lewis Jones, M.D. With Illustrations. Cloth. Pp. 532. Price, $3.00. Philadelphia: P. Blakiston's Son & Co. 1900.

Illinois State Board of Health. Advance Notes of the Sanitary Investigations of the Illinois River and its Tributaries. With Special Reference to the Effect of the Sewage of Chicago on the DesPlaines and Illinois Rivers Prior to and after the Opening of the Chicago Drainage Canal. Cloth. Pp. 57. Springfield: Phillips. 1900.

Medical Diagnosis with Special Reference to Practical Medicine. A Guide to the Knowledge and Discrimination of Diseases. By J. M. Da Costa, M.D., LL.D., Physician to the Pennsylvania Hospital. Illustrated. Ninth Edition, Revised. Cloth. Pp. 966. Price, $5.00. Philadelphia: J. B. Lippincott Co. 1900.

Practical Uranalysis and Urinary Diagnosis. A Manual for the Use of Physicians, Surgeons, and Students. By Charles W. Purdy, LL.D., M.D., Fellow of the Royal College of Physicians and Surgeons, Kingston. Fifth Revised and Enlarged Edition. With Numerous, Illustrations, Including Photo-engravings and Colored Plates. Cloth. Pp. 392. Price, $3.00 net. Philadelphia: F. A. Davis Co. 1900.

Public Health Reports. Issued by the Supervising Surgeon-General, Marine-Hospital Service, under the National Quarantine Act of April 29, 1878, and the Act Granting Additional Quarantine Powers and Imposing Additional Duties upon the Marine-Hospital Service, Approved February 15, 1893. Vol. xiv. Nos. 1 to 52. Cloth. Pp. 2389. Washington: Government Printing Office. 1900.

Original Contributions Concerning the Glandular Structures Appertaining to the Human Eye and its Appendages. By Adolph Alt, M.D., Professor of Ophthalmology in Beaumont Hospital College, St. Louis. With 71 Original Illustrations. Cloth. Pp. 70. Price, $1.50. St. Louis: American Journal of Ophthalmology.

L'Assistena dei Pazzi nel Manicomio e nella Famiglia. Istruzioni elementari per infermieri ed infermiere. Dott. A. Pieraccini, Vice Direttore del Manicomio Provinciale di Macerata. Con Prefazione del Prof. E. Morselli, Direttore della Clinica Psichiatrica di Genova. Cloth. Pp. 64. Milano: Ulrico Hoepli. 1901.

Lessons on the Anatomy, Physiology and Hygiene of Infancy and Childhood for Junior Students. Consisting of Extracts from Lectures given at Rush Medical College. By Alfred C. Cotton, A.M., M.D. Cloth. Pp. 174. Price, $1.50. Chicago: Chicago Medical Book Co.

Clinical Examination of the Urine and Urinary Diagnosis. A Clinical Guide for the Use of Practitioners and Students of Medicine and Surgery. By J. Bergen Ogden, M. D., Instructor in Chemistry, Harvard University Medical School. Illustrated. Cloth. Pp. 416. Price, $3.00. Philadelphia: W. B. Saunders & Co. 1900.

A Text-book of Practical Medicine. By William G. Thompson, M.D., Professor of Medicine in the Cornell University Medical College, New York City. Illustrated with 79 Engravings. Cloth. Pp. 1011. Price, $5.00. New York and Philadelphia: Lea Brothers & Co. 1900.

Surgery, its Theory and Practice. By William Johnson Walsham, F.R.C.S., M.B., C.M., Surgeon and Lecturer on Surgery, St. Bartholomew's Hospital. With 483 Illustrations, Including 16 Skiagram Plates. Seventh Edition. Cloth. Pp. 951. Price, $3.50. Philadelphia: P. Blakiston's Son & Co. 1900.

Report of the Mortality Records of the Mutual Life Insurance Company of New York. For Fifty-six years, from 1843 to 1898. By Elias J. Marsh and Granville M. White, M.D., Medical Directors. Cloth. Pp. 245. New York: Mutual Life Insurance Co. 1900.

The Mental Affections of Children: Idiocy, Imbecility, and Insanity. By William W. Ireland, M.D., Corresponding Member of the Psychiatric Society of St. Petersburg. Second Edition. Cloth. Pp. 450. Price, $5.00. Philadelphia: P. Blakiston's Son & Co. 1900.

The Law and its Relations to Physicians. By Arthur N. Taylor, LL.B., of the New York Bar. Cloth. Pp. 534. Price, $2.50. New York: D. Appleton & Co. 1900.

Essentials of Medical and Clinical Chemistry. With Laboratory Exercises. By Samuel E. Woody, A.M., M.D. Fourth Edition, Revised and Enlarged. Illustrated. Cloth. Pp. 243. Price, $1.50. Philadelphia: P. Blakiston's Son & Co. 1900.

Transactions of the Southern Surgical and Gynecological Association. Volume xii. Twelfth Session, Held at New Orleans, La., December 5, 6, and 7, 1899. Cloth. Pp. 394. Published by the Association. 1900.

Transactions of the Kentucky State Medical Society. Forty-fifth Annual Session, Held at Georgetown, May 9, 10, and 11, 1900. Volume viii. Cloth. Pp. 253. Printed for the Society. 1900.

Transactions of the Medical Society of the State of California. Thirtieth Annual Session, San Francisco, April, 1900. Vol. xxx. Cloth. Pp. 610. Published by the Society.

The Microtomist's Vade-mecum. A Handbook of the Methods of Microscopic Anatomy. By Arthur Bolles Lee. *Fifth Edition.* Cloth. Pp. 532. Price, $4.00. Philadelphia: P. Blakiston's Son & Co. 1900.

Idroterapia. Del Prof. Gaetano Gibelli, Proprietario del gabinetto elettro-termo-baro-idroterapico, Milano, Via Manzoni, 50. Con 30 incisioni. Cloth. Pp. 237. Milano: Ulrico Hoepli. 1900.

PAMPHLETS.

Biennial Report of the Board of Health of the City of New Orleans, 1898-1899. Paper. Pp. 138.

Clinical and Pathologic Observations on some Early Forms of Epithelioma of the Skin. By J. A. Fordyce, M.D., New York. Reprinted from N. Y. Med Jour.

Concomitant Measles, Chicken-pox and Smallpox. A Type of Enteric Fever not Typhoid. By Otto Lerch, A.M., M.D., Ph.D., New Orleans. Reprinted from New Orleans Med. Jour.

Constitution and By-laws of American Therapeutic Society. Paper. Pp. 8.

A Contribution to the Technique of Modern Uranoplasty. Sigmoid Sinus Thrombosis. By James F. McKernon, M.D., New York. Reprints.

Datos Para la Materia Medica Mexicana. Tercera Parte. Paper. Pp. 152. Mexico: Oficina Tip. De La Secretaria De Formento. 1900.

Educational and Legislative Control of Tuberculosis By Charles Denison, A.M., M.D., Denver, Colo. Reprinted from The Journal A. M. A.

Fifteenth Annual Report of the Secretary of the State Board of Health and Vital Statistics of the Commonwealth of Pennsylvania and Minutes of the Board. Presented by the Secretary, Benjamin Lee, M.D., November 23, 1899. Paper. Pp. 141. *Wm. Stanley Ray, State Printer of Pa.*

The Fracture of the Ribs. By W. A. Kuflewski, M.D., Chicago.

Heredity in Disease. By G. Archdall Reid, M.B., F.R.S., Southsea. Reprinted from the Scottish Medical and Surgical Journal.

Medicine as a Business Proposition. By G. Frank Lydston, M.D., Chicago. Paper. Pp. 32. Price $0.25. Chicago: Riverton Press.

Neurasthenia: Some Points in its Pathology and Treatment. Report of a Case of Tumor of the Cerebellum with Drainage of Fluid Through the Nose. By G. W. McCaskey, A.M., M.D., Fort Wayne, Ind. Reprints.

Ocular Complications of Variola. By Geo. F. Keiper, M.D., Lafayette, Ind. Reprinted from Med. and Surg. Monitor.

Proceedings of the Philadelphia County Medical Society. May. Paper. Pp. 240. Philadelphia. Published by the Society.

Proceedings of the Pathologic Society of Philadelphia. July. Paper. Pp. 240. Philadelphia: Published by the Society.

Pus in the Pelvis. Difficulties Encountered and Surmounted in Operations on the Female Pelvic Organs, By John L. Jelks, M.D., Memphis, Tenn. Reprinted from the Memphis Med. Monthly.

Rampancy, the Fervor of the Forehead A Study of the Anterior Metopic Lobule. By Wallace Wood, M.D. Reprinted from the N. Y. Med. Jour.

Report of the Board of Censors of the Medical Association of the State of Alabama. Submitted to, and Adopted by, the Association, During the Meeting Held in Montgomery, April 17-20, 1900. Paper. Pp. 32. Montgomery, Ala.: Brown Printing Co. 1900.

Board of Health of the State of New Jersey. Circular 100. Transportation of the Dead. Paper. Pp. 23. Trenton, N. J.: John L. Murphy Publishing Co.

A Unique Case of Double Inguinal Hernia. By W. T. Eckley, M.D., and Charles Davidson, M.D. Reprinted from Chicago Clinic.

TRADE PAMPHLETS.

Assimilation of Phosphorus. Clinical Reports on Hypoquinidol. Internal Administration of Iodin. By. R. W. Gardner, Pharmaceutical Chemist. New York.

The Wellcome Chemical Research Laboratories. By Burroughs, Wellcome & Co.

Euquinine. Tannalbin. By Merck & Co.

New Patents.

Patents of Aug. 7 to 27, of interest to physicians:

655,540. Vaginal syringe, Anton Arlt, Bad Sommerstein, Germany.

655,190. Suturating instrument, Louis Bramson, Copenhagen, Denmark.

655,601. Hernial truss, Rollo W. Browne, Washington, D. C.

655,206. Truss-pad, Austin J. Davidson, Douglas City, Cal.

655,481. Device for promoting growth of hair, Frederick W. Evans, St. Louis, Mo.

655,485. Water bag, Lorenzo M. Hansen, Moorestown, N. J.

655,490. Muscle kneader, Rudolph Hollem, Sioux City, Iowa.

655,365. Hernial truss, Henry M. Johnson, Minden, Iowa.
655657. Syringe, Frederick J. Lander, Rochester, N. Y.
655,509. Obstetrical appliance, Haldora Olson, Duluth, Minn.
655,413. Magnetic drinking cup, Herbert A. Parkyn, Chicago.
655,514. Umbilical truss, Howard C. Rash, Salina, Kan.
655,458. Making superphosphates, Heinrich Saxl, San Francisco, Cal.
655,529. Amido-sulfonic acid, Joseph Turner, Huddersfield, Eng.
655,665. Apparatus for heating and sterilizing fluids, Addison G. Waterhouse, and J. S. Forbes, Philadelphia, Pa.
655,317 Electric temperature indicator, Leslie S. Wilder, Springfield, Mass.
33,049 Design, douche pan, Daniel Hogan, New York City.
655,961. Truss, Lorenz A. Deuther, Buffalo, N. Y.
655,782. Soda water dispensing apparatus, Charles F. Kade, Sheboygan, Wis.
655,061. Producing formaldehyde vapors, Jean J. A. Trillat, Paris, France.
655,744. Syringe. Washington S. Valentine, New York City.
656,072. Soda-water apparatus, Joseph O. Wild, Holyoke, Mass.
655,747. Electromedical vacuum apparatus, George W. Winckfield, Alameda, Cal.
656,180. Machine for manufacturing nerve broaches, etc., James H. Downie, Detroit, Mich.
656,182. Sound-collector for the ears, Wm. G. Ehrhardt, New York City.
656,253. Making sodium carbonate crystals, Josef Kunstner, Obersedlitz, Aussegg, Austria-Hungary.
656,738. Combined hobby-horse and invalid's chair, Alvin J. Branham, Springfield, Mo.
656,992. Disinfectant, James L. Mortimer and J. H. Williams, Liverpool, Eng.
656,657. India-rubber water bag, John Parette, Montreal, Can.
657,003. Glycerinized vaccin lymph, Edward M. Parker, Washington, D. C.
656,862. Corn-shield, Marcus Straussberg, Newark, N. J.
656,914. Vaccin-point carrier, Ralph Walsh, Washington, D. C.
33,126. Design, atomizer casing, Isaac Q. Gurnee, Butler, N. J.
33,125. Design, inhaler, Hiram L. True, McConnellsville, Ohio.

Change of Address.

O. F. Allen, Mt. Vernon, to Mt. Olive, Ill.
M. W. Bland, Galion, to Shelby, Ohio.
A. B. Bonar, 157 W. 47th St., to 146 W. 94th St., New York City.
C. W. Baker, Blanchard, Ohio, to Stanwood, Iowa.
W. H. Boone, 197 Wood St., Chicago, to Chrisman, Ill.
Thos. H. Barlow, Alexandria, Minn., to Rush Medical College, Chicago.
H. Bergstein, Reno, Nev., to Cracker Bldg., San Francisco, Cal.
J. H. Bogle, Collinsville, to Luttrell, Ala.
T. E. Courtright, 186 W. Ninth Ave., to 859 Oak St., Columbus, Ohio.
E. L. Clawson, 18 N. McCamley St., to 232 Van Buren, W., Battle Creek, Mich.
W. C. Cundiff, Huntsville, Tenn., to Somerset, Ky.
A. Crawford, Miles, to Mt. Vernon, Iowa,
W. R. I. Dalton, 101 Convent Ave., New York City, to Delaware Water Gap, Pa.
H. G. Ebert, 412 N. 34th St., Philadelphia, Pa., to University Station, Charlottesville, Va.
Frank LeMoyne Hupp, Hulett's Landing, Lake George, to 318 W. 57th St., New York City.
S. L. Fridus, 661 W. 14th St., to 4834 S. Ashland Ave., Chicago.
W. R. Ford, Ft. Atkinson, Wis., to 6537 Perry Ave., Chicago.
B. R. Gary, 127 28th St., to 128 33rd St., Newport News, Va.
A. Graydon, Bloomsburg, to Homestead, Pa.
G. E. Garwood, Deshler to Leipsic, Ohio.
E. Gleitsman, 710 Fullerton Ave., to 1732 Diversey Boul., Chicago.
P. A. Haley, Paint Creek, to Hinton, W. Va.
F. H. Hacker, 310 Meeting St., to 113 Ashley Ave., Charleston, S. C.
W. H. Hill, Gentryville, Mo., to Peoria, Ill.
C. W. Heath, 16 Astor St., to 404 LaSalle Ave., Chicago.
E. C. Hackett, 121 W. 14th St., Dubuque, Iowa, to 298 Maxwell St., Chicago.
C. E. Ide, Newport, N. H., to 192 E. Superior St., Chicago.
S. H. Kempner, Milford, Conn., to 168 W. 130th St., New York City.
George M. Lucas, Malta, to 265 Milwaukee St., Elgin, Ill.
W. C. Leary, Fitten Bldg., to Austell Bldg., Atlanta, Ga.
A. O. Loe, Crookston, Minn., to York Bldg., Seattle, Wash.
H. G. Mertins, Ashland, to Washburn, Wis.
W W. Miller, 84 Worcester St., Boston, Mass., to 52 E. Range St., University of Virginia, Charlottesville, Va.
L. F. Michael, Dulce, N. M., to Ponca City, O. T.
H. C. Miller, Gibbs Blk., Findlay, Ohio, to Cambria, Mich.
John L. Morse, 317 Marlborough St., to 70 Bay State Road, Boston, Mass.
Geo. W. May, Haverhill to Cascade, Iowa.
W. O. Nisbet, Waxhaw, to Charlotte, N. C.
L. J. Perkins, Pendleton Ore., to 2909 University Ave., Des Moines, Iowa.
F. Purdue, Alto Pass, to Lyndon, Ill.
M. Ravn, Scandinavia, to Merrill, Wis.
J. B. Sweeney, Manistique, Mich., to Green Bay, Wis.
J. Sjoquist, Chicago, to Holdrege, Neb.
F. D. Stricker, 337 E. Congress St., to 616 Elmwood Ave., Detroit, Mich.
M. Scanlan, Lost Nation, to DeWitt, Iowa.
E. R. Scholten, 4603 State St., to 4412 Wabash Ave., Chicago.
W. A. Starner, 169 Ponce de Leon Ave., to 24 Kelly St., Atlanta, Ga.
C. A. Smith, 1003 Spruce St., Philadelphia, Pa., to English-American Bldg., Atlanta, Ga.
T. E. Taylor, Steele Blk., to Denison Blk., Denver, Col.
R. H. Wright, Petersburg, Va., to Haskins Hospital, Wheeling, W. Va.
J. W. Worrell, Brownsville, to 128 S. Negley Ave., Pittsburg, Pa.
C. E. Wehrle, 1006 Washington St., to 2109 Robinwood Ave., Toledo, Ohio.
G. H. Willis, 6917 Eggleston Ave., Chicago, to Galien, Mich.
F. J. Will, Eagle Grove, to Equitable Bldg., Des Moines, Iowa.
W. B. Wells, Milton, Wis., to 108 Honore St., Chicago.
C. E. Weber, 5554 Ellis Ave., to 4304 Grand Boul., Chicago.
W. H. Walker, Utica, Neb., to 750 Harrison St., Chicago.
J. G. Wilkins, Fitten Bldg., to Groat Bldg., Atlanta, Ga.
J. E. Wheat, Los Angeles, to Fernando, Cal.
W. N. Wade, Lompoc, to 1516 Castillo St., Santa Barbara, Cal.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., August 22 to 28, 1900, inclusive:

James K. Ashburn, acting asst.-surgeon, from Batavia, Ohio, to San Francisco, Cal., to accompany troops to the Philippines.

Louis Brechemin, major and surgeon, U. S. Army, sick leave extended.

Joseph J. Curry, acting asst.-surgeon, leave of absence granted on account of sickness.

Calvin DeWitt, lieutenant-colonel, deputy surgeon-general, on expiry of present leave to report at St. Paul, Minn., for duty as chief surgeon, department of Dakota, to relieve Colonel Joseph P. Wright, assistant surgeon-general, U. S. Army.

P. C. Field, acting asst.-surgeon, leave of absence extended.

Aubrey F. Higgins, acting asst.-surgeon, former orders revoked; he will proceed to Philadelphia, Pa., for annulment of contract.

David J. Johnson, acting asst.-surgeon, former orders amended to read from Plattsburg Barracks to Fort Ontario, N. Y.

William L. Little, acting asst.-surgeon, from Fort Clark to San Antonio, Tex., for duty with troops of the 25th Infantry under orders for the Philippines.

Robert J. Marsh, acting asst.-surgeon, from the department of Alaska to Portland, Ore., for annulment of contract.

William O. Owen, major and surgeon, U. S. Army, to represent the medical department of the army at the meeting of the American Health Association at Indianapolis, Ind., October 1 to 5, 1900.

Benjamin F. Pope, lieutenant-colonel, deputy surgeon-general, U. S. Army, from temporary duty at the Presidio of San Francisco, Cal., to permanent station at that post.

William E. Purviance, captain and asst.-surgeon, U. S. Army, from Fort Egbert, Alaska, to duty in the Department of California.

Charles Richard, major and surgeon, U. S. Army to represent the medical department of the army at the meeting of the American Public Health Association at Indianapolis, Ind., October 1 to 5, 1900.

William E. Richards, lieutenant and asst.-surgeon U. S. Army; previous orders amended to read from Fort Ontario to Plattsburg Barracks, N. Y.

Charles F. Sanborn, acting asst.-surgeon, previous orders directing him to proceed to San Francisco, Cal., to accompany troops on foreign service revoked.

Herbert F. Saunders, acting asst.-surgeon, from Greenville, Ala., to San Francisco, Cal., to accompany troops going on foreign service.

Herman J. Schlageter, acting asst.-surgeon, from the Department of Alaska to Vancouver Barracks, Wash., for temporary duty.

Howard W. Seager, acting asst.-surgeon, from Des Moines, Iowa, to San Francisco, Cal., to accompany troops going on foreign service.

Henry A. Shaw, captain and asst.-surgeon, U. S. Army, former orders amended so as to direct him to report at San Francisco, Cal., for transportation to Manila, for duty in the Division of the Philippines.

William D. Shelby, acting asst.-surgeon, on expiry of present leave to proceed from Fort Thomas, Ky., to San Francisco, Cal., for duty with troops going on foreign service.

Alva D. Williams, acting asst.-surgeon, from Jacksonville, Fla., to San Juan, Porto Rico, for duty in that Department.

William B. Winn, major and surgeon, U. S. Vols., former orders amended so as to direct him to report at SanFrancisco, Cal., for transportation to Manila for assignment to the Division of the Philippines.

Navy Changes.

Changes in the Medical Corps of the U. S. Navy for the week ending Sept. 1, 1900:

Medical Inspector P. M. Rixey, commissioned medical inspector from Aug. 24, 1900.

Surgeon G. T. Smith, commissioned surgeon from Aug. 24, 1900.

P. A. Surgeon A. M. D. McCormick, detached from the *Chicago* and ordered to the *Montgomery*.

Asst.-Surgeon J. R. Whiting, detached from the *Montgomery* and ordered to the *Chicago*.

P. A. Surgeon M. R. Pigott, ordered to the Naval Academy immediately.

Asst.-Surgeon C. A. Crawford, detached from the *Chesapeake* and ordered to the *Eagle*.

P. A. Surgeon L. W. Spratling, detached from the naval hospital, Yokohama, Japan, upon reporting of relief, and ordered to report to the commander-in-chief of the Asiatic Station for such duty as may be assigned.

Asst.-Surgeon F. L. Benton, detached from the naval hospital, Cavite, P. I., and ordered to the naval hospital, Yokohama, Japan, for duty.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ending Aug. 30, 1900:

Surgeon P. M. Carrington, granted leave of absence for one month from Sept. 4.

Surgeon L. L. Williams, to assume charge of Purveying Depot for two days.

Surgeon G. T. Vaughan, granted leave of absence for fifteen days from Sept. 1.

P. Asst.-Surgeon W. G. Stimpson, granted leave of absence for fifteen days from Aug. 28.

P. Asst.-Surgeon J. M. Eager, granted leave of absence for four months from Nov. 30—permission to go beyond sea.

P. Asst.-Surgeon A. R. Thomas, to proceed to Glasgow, Scotland, for temporary duty.

Asst.-Surgeon G. M. Corput, granted leave of absence for seven days.

Asst.-Surgeon F. J. Thornbury, granted three days' extension of leave of absence.

Acting Asst.-Surgeon J. P. C. Foster, granted leave of absence for sixteen days from Aug. 28.

Acting Asst.-Surgeon J. W. Stevenson, granted leave of absence for twenty-one days from Sept. 3.

Hospital Steward, George A. Morris, to proceed to New York (Stapleton), and report to medical officer for duty and assignment to quarters.

APPOINTMENT.

Mark H. Watters, of Vermont, appointed junior hospital steward.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended Aug. 31, 1900:

SMALLPOX—UNITED STATES.

Alaska: Cape Nome, from beginning of outbreak to Aug. 23, 23 cases.

Colorado: Denver, Aug. 11-15, 3 cases; Garfield county, Aug. 4, 1 case; Las Animas County, Aug. 7, 1 case.

Louisiana: New Orleans, Aug. 18-25, 9 cases, 2 deaths.

New York: New York, Aug. 18-25, 1 death.

Ohio: Cleveland, Aug. 18-25, 4 cases; Dayton, Aug. 18-25, 1 case; Portsmouth, Aug. 18-25, 2 cases.

SMALLPOX—FOREIGN.

Austria: Prague, July 28-Aug. 1, 8 cases.

Belgium: Antwerp, July 28-Aug. 4, 2 cases.

Egypt: Cairo, July 22-29, 1 case.

England: London, Aug. 4-11, 5 cases.

France: Lyons, July 28-Aug. 4, 2 deaths.

Germany: Berlin, Aug. 10, 3 cases.

Gibraltar: Aug. 5-12, 2 cases.

India: Bombay, July 24-31, 2 cases.

Russia: Moscow, July 28-Aug. 4, 2 cases, 2 deaths; Odessa, July 28-Aug. 11, 108 cases, 29 deaths; Warsaw, July 28-Aug. 4, 7 deaths.

YELLOW FEVER.

Colombia: Barranquilla, Aug. 5-12, 1 death; Panama, Aug. 13-20, 4 cases.

Costa Rica: Port Limon, Aug. 22, 1 case on S. S. *Cunard*, from Colon.

Cuba: Havana, Aug. 4-11, 18 deaths; Matanzas, Aug. 26, 1 case.

France: Havre, Aug. 11, 1 case on S. S. *Caravallas*, from Lorenzo Marques, via Senegal; Aug. 13, several cases on S. S. *Santa Fe* from Lorenzo Marques, via Senegal.

Mexico: Merida, July 3, 7 cases, 4 deaths; Tampico, Aug. 16, 1 death.

CHOLERA.

India: Bombay, July 22-31, 379 deaths; Madras, July 21-27, 5 deaths.

PLAGUE.

Australia: Sydney, to July 28, 302 cases, 102 deaths.

India: Bombay, July 24-31, 45 deaths.

Scotland: Aug. 31, 11 cases.

Turkey: Smyrna, from outbreak to Aug. 6, 22 cases, 11 deaths.

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The Journal of the
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Address.

SPECIALISM IN MEDICINE.*

FREDERICK C. SHATTUCK, M.D.
Jackson Professor of Clinical Medicine, Harvard University, etc.
BOSTON.

When, under the influence of faulty metabolism or other cause, pessimism gets the better of us, we sometimes quote with approval the remark of Solomon the Wise, that there is nothing new under the sun, without reflecting that Solomon himself was probably not feeling his best at the moment. Something in his internal or large domestic economy had gone wrong, I suspect. Possibly he had to write an address! However, this may be, let us suppose him suddenly brought for a visit to one of our large cities. He would certainly find that advance in knowledge has brought about great change in our relation to things, be the things themselves never so ancient or immutable. Solomon was at the *fin* of his *siècle*, but the old sun looks down on a different world at the *fin* of this *siècle*. He could not fail to be impressed by the subdivision of labor of the present day in every branch of industry. Were the great king to be seized with sudden abdominal pain he would surely have the benefit of a surgical and a medical opinion. Another doctor would make a blood count, another a urinary examination, another, perhaps, would examine his vomitus or stools; another, use the X-ray. If his abdomen were opened the pathologist would report on cultures from the cavity, or on the structure and nature of any suspicious tissue. It would, in a word, be demonstrated to him that specialization has taken place in the science and art of medicine, as in other sciences and arts. And Specialism in Medicine is the theme which I have selected for brief and, I fear, inadequate consideration during the time your president has done me the great honor of delivering you into my hands.

A line of cleavage appeared first perhaps between medicine and surgery; and it is curious to note that nowhere has the line, at least in name, in the past been so closely drawn as in England, where more minute specialization has met with considerable opposition. Toward this result the anomalous fact that the degree of Doctor of Medicine has in England been only a University title, must, it seems to me, have contributed. Practically everywhere else in the civilized world the practitioner is a Doctor of Medicine. Although we have a fair working knowledge of the distinction between medicine and surgery, I, at least, find myself unable to frame a satisfactory definition of the distinction. Some thirty years ago, during my medical studies, I had the pleasure of meeting the late Mr. Holden, then of Bartholomew's Hospital, and was asked by him whether I meant to be a physician or a surgeon. On my reply that I looked forward to being a physician, he remarked, "Don't you do it; the surgeon can do all the physician can, and more too." When I repeated this remark to dear old Sir Henry, then Doctor, Acland, he dryly remarked that he should be very grateful to Mr. Holden if he would come and teach him how to do some of his work. Much more recently I have heard of a very distinguished London surgeon defining a surgical case as one which paid him two guineas. Anesthesia greatly enlarged the bounds of surgery, and yet twenty-five years ago there was not a pure surgeon in America. The surgeon did as much general practice as he could get, including midwifery. Surgical cleanliness has worked a great change in this respect, and the end is not yet in sight. We see men to-day, even in relatively small communities, confining themselves strictly to surgery. Without much exaggeration one can say that it is as hard to-day to live on medicine alone as it was twenty-five years ago to live on surgery alone. "Belly-ache" is now a surgical disease. I know of a child with pneumonic pain referred to the right iliac region being operated upon for appendicitis. A few years ago a woman was sent into the surgical wards of the Massachusetts General Hospital for operation, perhaps for extrauterine pregnancy. The surgeon, who had had a large general experience, noticed wrist-drop and a blue line on the gums, and transferred her without operation to my wards. So safe now-a-days is the use of the knife under proper precautions that there is temptation to use it for purely diagnostic purposes. Just when to yield to and when to resist this temptation requires good judgment and general knowledge. The heart is practically the only viscus which remains the exclusive province of the physician. That organ is more tolerant of insult than has been supposed, and who shall dare to say that, impossible as it seems now to us, a contracted mitral valve can not be slit without causing death? The real line between medicine and surgery is one thing; the practical line is another. The last quarter century has seen them approximate notably, but they will not coincide until knowledge is perfect. The establishment of a German journal devoted to the borderlands of medicine and surgery is interesting.

Obstetrics, again, early became a specialty; though in rather a different way. For parturition is a physiologic process, and in many countries a large proportion of births are now under the sole charge of midwives. In this country the general practitioner has clung to his obstetrics as a necessity for family practice, oftentimes bewailing his hard fate and interrupted nights, meanwhile. Of late years we see in the larger centers a ten
ency of obstetrics, at least among the go
the hands of a few men, who, on the of
puerperium, withdraw, the family su
his place. This is a practice which
can obtain only in large communi

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* The Address in Medicine, delivered before the Canadian Medical Association, Ottawa, Ont., September 13.

propriateness we see these obstetricians also busied in diseases peculiar to women, many of which are the outgrowth of one or more previous pregnancies.

Gynecology is of almost unique interest from the point of view of Specialism in Medicine, and a medical Gibbon could write an interesting book on its Rise and Fall. Not many years ago it was, I am tempted to say, the most in evidence of any specialty into which enterprising young men were ambitious of crowding themselves before the ink on their diplomas was scarce dry. The mills of the gods grind no less fine than they did, but, I think that they grind quicker in these electric days. Pure gynecology to-day scarcely exists. Many deviations from the normal in the female pelvis give rise to no symptoms until the general health begins to fail, from one cause or another. Such cases belong to and are best treated, ordinarily, by the wise general practitioner. If I read the signs of the times aright, what may be called pelvic tinkering, which has been so much practiced in the last decades, is suffering from a rapid decline. What is really necessary can safely and best be left in the hands of the obstetrician alone or aided by the general physician; and major gynecology, the great bulk of which involves laparotomy, seems to be going where it belongs—into the hands of the general surgeon. It may all have been a necessary sequence in the evolution of knowledge, or I may be ignorant or prejudiced, but I can not look at the groping course of gynecology as a triumph of human intelligence.

How many women have been unnecessarily deprived of necessary sexual organs; how many have had their attention fixed on these organs, which in the male nature has left in evidence, but in the female has modestly hidden away, affording, like all hidden or veiled things, wide play to an awakened imagination!

On the eve of reading this I see the following words just from the pen of Prof. Howard Kelly, of the Johns Hopkins, certainly a competent witness: ". . . the general adoption of the principles of asepsis leaves the barrier between general surgery and gynecology a purely artificial one, and one which must inevitably, sooner or later, be broken down. My advice, therefore, to all gynecologists is to study general surgery and become general surgeons first."[1]

Surgery and obstetrics seem likely always to hold their places as great divisions of medicine as a whole. Let me now turn to the subdivisions of medicine, as contrasted with surgery and obstetrics, and try to consider specialization in connection with its etiology. The first place among the causes for the increase in specialism doubtless belongs to increase in knowledge. A half century ago James Jackson, than whom my native city has produced no wiser physician, said that there was more actually known in medicine than the mind of any one man could grasp. If this was true fifty years ago, how much more true is it of the present day. The field is so large that no one man can possibly oversee and bring it to full productiveness. Each crop needs a separate head of the first class. But here, perhaps, as well as elsewhere, I may state that I trust nothing I say can be construed into any slight on the general practitioner, especially on the men who in small communities are liable to be called upon to deal with any emergency of any kind pertaining to medicine in its broadest sense.

All honor to those to whom honor is due. Those of us who dwell in large cities and have the advantage of the presence of experts in every line at instant call are, I believe, keenly alive to the danger of one-sided development to which we are exposed, and to the lack of self-reliance and resource following from this, when we get off our narrower or wider beaten track. I simply mean that the highest excellence, knowledge and skill in all branches of medicine are simply impossible of attainment by any one man—a proposition which must command universal assent.

The specialty of neurology seems to me a case in point. Great advances have been made in our knowledge of the anatomy and physiology of the nervous system in recent years, though there is still enough which is obscure. Neurology deals with a system rather than with an organ; has length and breadth, touches medicine at very many points, and thus involves less risk of narrowness of view to its devotees than do some specialties. A general practitioner once shrewdly remarked to me, "It takes a mighty big man to be a specialist." The neurologist must also have large knowledge of the diagnostic and therapeutic uses of electricity.

Diseases of the skin, with its appendages, accessible as they are directly to sight and touch, form one of the earliest of modern specialties. As coming under external pathology they were formerly considered rather the province of the surgeon than of the physician. The dermatologists have simply justified their existence, and have profited to the full by the impetus which bacteriology has given to all branches of medicine.

It is only in centers of population that the specialist can get a support. In the increase of these centers lies the second factor in the etiology of specialism. Not only are cities growing in numbers and size, but the means of rapid and ready travel are so multiplying that the hope of relief from mere inconveniences, perhaps, makes people everywhere intolerant of ills which, in earlier times, they resigned themselves to bear as best they could. I have often thought what a wonderful field London offers for the development of the highest and best specialism. Quite apart from her five million inhabitants, she is within relatively short reach of any part of the United Kingdom. Besides this, people bring back from the English colonies scattered over the world many kinds of strange ailments and all manner of climatic results. There one may lay his foundation broad and deep, can keep in touch with the larger aspects of medicine, and can be gradually converted into a specialist, even of an organ, if he wish. His consulting-room is a filter for thirty odd millions of people. He can legitimately be forced into a specialty—quite a different thing from forcing himself into one. Other things being equal, the larger and wider his general experience has been, the better specialist and the bigger man will he be.

A third factor in the increase of specialism grows out of our first. Inventive talent is leading more and more to the possibility of direct examination of organs and cavities which were formerly closed to our eyes and touch. The proper use of many of these aids requires a long apprenticeship. The limits of physiologic variation must be learned, and delicacy and skill must be acquired in the use of instruments more potent for harm than good in untrained hands. Manual dexterity, impossible to some, and attainable by any only with practice, is added to general knowledge and good judgment. Ophthalmology, demanding also a wide knowledge of optics, affords a good illustration. The otologist should know much of acoustics. The nose and throat are so intimately connected with the ear, and form the starting-point of so many ear diseases, that it seems to me they should all be included in one specialty rather than in two, as is generally the case at present. The addition of the larynx would seem to unduly enlarge the field.

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[1] Philadelphia Medical Journal, Sept. 1, 1900, p. 391.

I can not see that there is now, at any rate, enough special knowledge and technical skill involved in the diagnosis and treatment of digestive disorders to warrant their separation into a true specialty. Yet a National Association of Gastro-Enterologists has, I believe, been formed in the United States. Time is inexorable and will settle the real status of the matter, so I will refrain from prophecy, bearing in mind the adage, "Don't never prophesy unless you know."

So much training is required to attain the best results with the X-rays that their use seems likely to fall largely into the hands of specialists, particularly where neither bones nor foreign bodies are in question. Y and Z rays may also be discovered, and broaden the specialty.

The three factors in the multiplication of specialties already mentioned—increase of knowledge, aggregation of population with rapid and frequent means of transit, and the invention of instruments requiring delicacy of use—may be regarded as inherent.

Besides these there are another three which I should class rather as accidental. A man may, first, have a special aptitude or taste, leading him to limit his work. This may be dangerous to indulge, or, at least, to indulge too early. The director of a modern gymnasium searches out the weak points in a would-be athlete, and, by attention to them, encourages symmetrical development. Next is a desire on the part of some to escape the hurly-burly of general practice, its irregular hours, and what they deem its slavery. This desire may be based on delicate health or indolence. The latter is no more likely to render good service to the community in a specialty than in general work. Thirdly, the hope of greater emolument with less toil may be added. People will pay larger fees for what they consider special knowledge, and the number of persons who can afford indulgences of all kinds is large and rapidly increasing. The ophthalmologist gets more for removing a speck of dust from the eye than does the general practitioner.

Specialism divides up the organs and systems of the body, separates the sexes in a measure, and still insatiate, steps in between children and parents. Shall we see parents and grandparents similarly set apart? Why not a chair in medical schools for the diseases of old age, as well as for the diseases of children? It is a conservative statement that the pathology of old age is at least as peculiar as is that of childhood. Infant-feeding alone affords scant material for a specialty, particularly if the profession as a whole would insist more on the use of nature's provision for young mammals, apparently sufficient for all of this class, save man. The number of women who can nurse their children is much larger than is that of those who do.

There are no instruments of precision or diagnostic procedures used in the diseases of children which are not in common use in adults—at least as far as I know. Of course, pathology is modified by age; but the differences seem to me minor. It is pleasanter to float on a flood than to struggle against an ebb tide. This may partly account for the apparent lack of enthusiasm for association exclusively with the diseases of the aged.

All the specialties which have been thus far mentioned are followed by men coming into continual contact with sick people, by men in active practice, so-called. The day is passing in America, and has indeed passed in the larger centers, when teachers of anatomy, physiology, and pathology can also be practitioners of medicine. These fundamental branches have become specialties, as far as teaching and research go, and an increase in the number of their followers can confidently be expected. Bacteriology is, in a broad sense, merely a department of biology. But the methods of study involved in the minute size and other attributes of the forms of life with which bacteriology deals, and the vast amount we have still to learn with regard to these organisms, affords full occupation for a large band of special workers.

Biologic chemistry, again, promises a large and productive field for a considerable number of special workers. Hygiene and experimental pharmacology also should be mentioned. The lines of cleavage between these more purely scientific specialties, just as between the practical specialties, are apparent rather than real—a matter of convenience rather than principle. Increase of knowledge will bring rearrangement of some of these specialties at the same time that it may tend to increase their number.

We practitioners can not be too grateful to the men who are willing to eat the bread of carefulness and devote their energies to the study and teaching of principles. We deal mainly with individual cases of disease. We try to cure or palliate the manifestations of disease in single cases as they come to us. Their aim is to make it possible, through determination of the causes of disease, to, in the first place, prevent them, and, in the second place, enable us to treat the disease itself when it does arise, rather than merely to treat the patient, as we still so often have to do.

Malaria and syphilis stand practically alone as diseases for which specifics have been stumbled on in the course of ages. Our recent gain in knowledge as to the causation and mode of transmission of malaria has not, as yet at least, added materially to our control of its symptoms or origin. And we are still in dense ignorance as to the real cause of syphilis. But within a few years myxedema, diphtheria, and I think it is safe to add hydrophobia, have been added to the list of diseases which we treat directly, and we seem to be on the eve of important further additions to this list.

Formerly shrewdness, "horse sense," and knowledge of human nature were more important elements in successful practice than even medical knowledge. Hence our ignorance has compelled us to treat the patient rather than the disease. And herein lies a great strength of quackery. Suggestion may be a more potent therapeutic agent in the hands of an unscrupulous and positive man, ignorant though he be, than in the hands of a highly-trained and conscientious man, handicapped often by a painful realization of his ignorance. Just in proportion to the advance in exact knowledge are the main props of quackery weakened. It is to special workers in special fields that we must look for this advance.

One is half tempted sometimes to think that the medicine of the future will be robbed of a charm which inheres in it to-day—the charm, namely, which belongs to the element of uncertainty, and the stimulation which this should bring to thought. The impulse is strong to cut the Gordian knot of abdominal diagnosis as has been already mentioned. Fine methods of research will gradually substitute certainty for uncertainty. But diagnosis is not likely ever to become a mere penny-in-the-slot affair, and the management of the patient—the art of medicine—will ever remain important, though more and more subordinate in the drama of medicine and human suffering.

Specialization is evident in hospi[illegible] vate practice. The ideal hospital poor can have the benefit of the highest skill and attainment in every branch of medicine—a beneficent trust in which specialists are associated and harmoniously work together. It must also be a center of medical teaching and research, opportunities for which constitute the return from the inmates for the benefits received. It seems to me a question how far it is wise to encourage the establishment of special hospitals devoted exclusively to this or that age, sex, or class of disease. The isolation of the staff of a special hospital has its manifest disadvantages. The creation and support of the more minute special departments in a general hospital dependent for its maintenance on the public spirit of private persons has its patent practical inconveniences and difficulties. The general hospital must follow, not lead, in specialization, and can not afford the luxury of "fads" unless it is far richer than are the general hospitals of which I have knowledge. Although hospitals are not business enterprises, one of their sinews is money, another, the devotion and capacity of the medical staff. The same administration can, given the funds, run a general hospital formed of a congeries of special departments as well as, and at less cost than, separate administrations can run a number of special hospitals.

It is all very well to say, "Take no thought for the morrow"; if our predecessors had acted literally on this precept we should be in a bad way. Progress will march and evolution go on in spite of us, doubtless. But we can have some influence over the rapidity of evolution, and it is our business to do what we can to foster right and to discourage wrong tendencies. One fact stands out clearly—that specialism in medicine has come to stay. Its advantages infinitely outweigh its disadvantages, and we have faith that all things work for good in the long run.

We study the past, and speculate as to the future. We all sometimes feel as did the late Dr. Hagen, the great entomologist—"I should like to be my own great-grandson." We can not greatly influence the amount of pity which our great-grandsons may feel for our attainment, but we can force their respect for our honest and unremitting effort.

Original Articles.

TRAUMA AS A CAUSE OF NERVOUS DISEASES.*

CHARLES W. BURR, M.D.
NEUROLOGIST TO THE PHILADELPHIA HOSPITAL.
PHILADELPHIA.

The subject assigned to me is so large that it is imposible to give it exhaustive study in the time at our disposal. I shall speak briefly about a number of different affections, shall quote no authorities, and shall try to confine myself to matters which will lend interest to the discussion. I shall speak solely of the causative influence of trauma and of the various ways in which it acts, and shall say little or nothing concerning symptomatology. Finally, I shall omit all consideration of the diseases which result from manifest physical injury to the bony coverings of the brain and cord, such as fractures and dislocations, and shall say nothing of such well-known conditions as cerebral concussion, meningeal hemorrhage and traumatic epilepsy, and shall consider only the organic and functional diseases unaccompanied by serious external injury.

To prove the traumatic origin of a disease may be easy or difficult. It is not safe to say always that because a disease follows a trauma, therefore it is the result even though the association of the two be very frequent. It must be shown that in the nature of things the trauma is competent to produce the disease; it must be shown how it acts—by what mechanism—and, best proof of all, there must, in organic diseases, be the post-mortem evidence of an injury having been sustained. Popularly many of the acute and almost all of the chronic diseases of the spinal cord and brain are supposed to be caused by injury. Almost every patient refers his illness to some accident which occurred in the more or less remote past. It is an easy explanation and is sometimes accepted without much thought or investigation. In the text-books trauma is put down along with exposure and cold, as one of the subsidiary causes of many things. In recent years, however, the entire question has been carefully and systematically studied and though much remains in dispute some progress has been made and a few problems definitely settled. That trauma may without injury to the skull or spine produce organic disease referable to the brain or cord is now accepted by everyone competent to have an opinion. Further, certain functional nervous diseases may result from accident, and indeed from shock or fright alone without any physical injury. Finally, organic and functional symptoms are frequently associated. Whether any of the system diseases of the spinal cord are ever caused by accident alone is still in dispute. It has been frequently alleged, for example, that locomotor ataxia may result from injury. The only evidence on which this opinion is based is the more or less complete proof of the absence of syphilis and the history of an injury to the back at the time when the patient thought himself to be in good health. In truth, the determination of the causation is difficult. Syphilis precedes it more frequently than any other disease, being present in at least 80 per cent. of all cases. On the other hand, the morbid anatomy of locomotor ataxia bears no resemblance to that of spinal syphilis, and mercury and iodid of potash are of no worth in its treatment. We are forced, then, if we accept syphilis as the one great primary cause—as indeed we must—to regard it either as an indirect cause simply, as a poison which so acts on the peripheral sensory neurons as to make them more sensitive to the influence of some other direct cause, or else to assume that syphilis generates some secondary poison which in turn causes the lesions. To explain the 20 per cent. of cases in which syphilis can be excluded is difficult. To prove that trauma is a cause is not easy. Locomotor ataxia is a disease of indeterminate onset and insidious course. You can not say of any case, on such a day this man was well, on the next day ill. The patient's statement as to the time of onset is valueless, for the disease may exist for some time without causing any symptoms recognizable as such by him. It is, therefore, frequently impossible to know if, at the time of the injury, the patient was free from disease. I do not know of any case in which it has been proved by medical examination a short time before the accident that the patient was normal in all regards.

Again, what time-limits are we to set upon the active influence of a trauma? How soon or how late may symptoms caused by it first appear? May there be a quiescent interval of months or years, or must there be a continuous sequence of symptoms from the time of receiving the injury in order for it to be regarded properly as their cause? The answers will depend largely upon the personal equation of the observer and his mental bias. If in one case soon or immediately after an injury happening to a man in known good health there should develop the classical symptoms of locomotor ataxia, it would be proper to carefully consider whether the injury might not have been the cause. If such cases were frequent and if it were proved that injury could produce such widespread lesions as are present in this disease, then it might be accepted as a cause. But locomotor ataxia is very common, and cases with a clear history of trauma are very rare. I am compelled to believe that the causative influence of trauma is as yet unproved and must agree with Dr. Morton Prince in saying, "when a sclerosis of the posterior columns develops after a traumatism, the subject was already doomed to this condition, the process having already begun, and that the traumatism at most only accelerated the development of the symptoms and possibly of the anatomical process." The symptom ataxia may, of course, occur in many affections of the spinal cord, resulting from trauma. The arguments used concerning locomotor ataxia apply with equal force to general paralysis of the insane, except that a history of traumatism, especially to the head, is much more frequent in the latter disease. But granting this, it has not been proved that traumatism alone, acting on a man in good health, who has not had syphilis, who is not an alcoholic, whose heredity is good, and who has not been subjected to severe mental or emotional stress, can cause general paralysis. That it may be a minor causative factor, as it were the match to the powder, is surely true. Other types of mental disease, other forms of organic dementia, not infrequently result from more or less serious injury to the head, and certain insanities may occur without any external hurt at all.

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*Presented to the Section on Nervous and Mental Diseases, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

The influence of trauma in causing tumors of the nervous system is only a part of the larger question in pathology, namely, the relation of trauma to new growths in general. Injury may, under certain circumstances and as concerns certain tumors, determine the seat of appearance. Injury to the head, with or without fracture, may be the direct and positive cause of a fibroma and the exciting cause of other tumors. Beyond this, for our purpose, the question is of little practical importance, for no one would base the diagnosis of tumor on the mere fact of a previous injury. Given a case of brain tumor without focal symptoms, evidence of an injury, no matter of how long standing, would be of some localizing value, but would throw no light on the nature of the growth.

The question attracting most attention to-day is how far and in what manner accidents cause certain groups of spinal and cerebral symptoms when there has been no gross visible or palpable injury to the skull or spine, or indeed no physical injury, but only fright. Erichsen was the first to study this question. He found that after accidents, especially those in which there was a large element of the horrible, there occurred in the patients groups of symptoms of certain types. Though he recognized the hysteric nature of some of them, he gathered the larger number into one class and believed them to be caused by spinal concussion. His book received considerable adverse criticism. The genuineness of the symptoms was denied and occasionally his own integrity was impeached. But time passed and it was proved that his histories were true; that such symptoms as he described do occur and are not necessarily fraudulent; that they are not the invention of evil-minded neurologists; that to carefully examine a patient, even going so far as to test his knee-jerks, will not necessarily scare him into a serious fit of illness; that the bulldozing method of treating hysteria fails, and that because a man gets well after a *financial settlement does not prove* he was never ill. It has also been proved that some of the symptoms which he explained by spinal concussion are produced in other ways. Recently, there has been a tendency to deny the possibility of spinal concussion on the ground that the cord is so well protected by its bony, ligamentous, and muscular coverings, so well supported by its nerves, and so surrounded by the spinal fluid that for mechanical reasons concussion can not occur. This is probably a little too radical. The evidence in favor of concussion from experimentation on lower animals is not of great value, for the results of different observers do not agree, and the anatomical or rather the mechanical differences between man and the smaller animals are so great that its existence in the latter would not prove its occurrence in the former.

On the other hand, to claim that all symptoms may be explained by gross lesions, hysteria or neurasthenia, begs the question. The matter has been somewhat clouded by a lack of exactness in defining spinal concussion. It probably would be best to define it as that condition in which after physical force has acted on the back itself, or on some part of the body which can transmit the force to the spine, there occurs a series of symptoms referable to the cord and produced without any visible injury to it, or to its membranes, or to the vertebræ, though later there may appear lesions of the cord not caused by hemorrhages, however small, but by a degeneration of the nervous elements themselves and beginning in them. There are both clinical and pathologic reasons for the belief in the existence of such an affection. Cases occur in which recovery is so rapid, the symptoms are so transient, that organic disease can not have been present. Acute cases showing exclusively spinal-cord symptoms, have been examined post-mortem with entirely negative results. In other cases, lesions have been found which have been believed by competent observers to have primarily affected the nervous elements themselves, and not to have been secondary to muscular or other gross injury.

There is no sharp line dividing spinal concussion as here defined, from myelitis caused by multiple hemorrhages. The symptoms of the two conditions merge. At one end of the series we find a group of transitory symptoms surely caused by disturbance of the functions of the cord without organic lesion discoverable by any means at our command, at the other the complete picture of serious organic disease.

One of the most interesting and, recently, most studied traumatic affections of the spinal cord, is fairly massive hemorrhage followed often by the formation of cavities. It is most frequent in cases of fracture and dislocation, but may occur without external injury. It seems to be usually located in the cervical region, probably because of the great mobility of the neck and the poor protection of the cord in that region. The gray matter is its favorite seat, but it sometimes occurs in the white matter, and occasionally extends into a dilated central canal. The symptoms depend, of course, on the seat and extent of the hemorrhage, the character of the cavity, and the amount of myelitis, but as a rule they are characteristic. Focal spinal-cord symptoms, sudden in onset, mean hemorrhage. Symptoms of a [illegible] *te* transverse lesion, which rapidly recede and leave only those pointing toward destruction of a small area, also mean hemorrhage. Hemorrhage often causes a Brown-Séquard palsy, sometimes simulates syringomyelia, but does not apparently ever give the complete symptomatology of that disease.

Traumatic lumbago is always placed among the nervous diseases, though in a strictly scientific classification it should be put among the diseases of muscles. It is caused always by direct injury—a blow on the back, sudden forcible bending, or a crush. Since it practically never ends in death, our knowledge of its morbid anatomy is scant. The best explanation of it is a tearing of some of the bundles of muscle-fibers, with extravasation of blood, and strain of the muscular and spinal ligaments. Sometimes there is also a real traumatic neuritis.

In recent years much attention has been given to the functional diseases resulting from trauma. The first question in my case, assuming the illness to be genuine, is whether the symptoms are caused by organic disease, or are what we must still call functional, or a combination of the two. Sometimes the answer is plain, sometimes the most skilful observer will hesitate to give a positive opinion. The grounds on which the diagnosis of functional or organic disease is based have shifted greatly. For a time, single symptoms were depended upon, and not many years ago, some surgeons claimed that the absence of muscular wasting excluded organic disease. No one makes this claim to-day, but others as groundless are sometimes heard. All the symptoms must be considered in forming an opinion.

The two great functional nervous diseases, that is, the two great diseases of unknown morbid anatomy, are hysteria and neurasthenia. Both frequently follow an accident, are much more frequent in adults than in children, and are sometimes quickly recovered from after a legal settlement is made. Both are sometimes pretended fraudulently to exist. That they may be caused by trauma is admitted by all competent to have an opinion. Concerning the manner of causation we have much to learn. It is certain that there is no lesion in hysteria discoverable by our present means. It occurs practically only after accident in which there is an element of fright, and sometimes, indeed not infrequently, there is no physical injury at all. It is curious that serious physical injury is rarely followed by hysteria, and it occurs very rarely after grave surgical operations. This is not explained by saying that severe injury insures against hysteria. The probable explanation is that there must be time enough for the patient to perceive the horror of the accident while fully conscious. Drunken men and little children almost never get traumatic hysteria, and patients go to operation reassured that no evil will result. A strong effort has been made to group together certain symptoms, some hysterical, some neurasthenic, under the title of the traumatic neurosis. It is doubtful if this serves any good purpose. Hysteria and neurasthenia, following accident, differ in no way from the same diseases when caused by other agencies.

Another disease of unknown pathology which frequently follows accidents, with or without physical injury, is paralysis agitans. Mere tremor is, as one may say, a physiologic sign of fright, and usually soon ceases, but occasionally it persists without the addition of any other symptom. Sometimes there are added, in slow progression, all the symptoms of shaking palsy. The tremor may appear first in the injured extremity if the trauma has been a local one.

TRAUMATIC NEUROSES FROM THE STANDPOINT OF A SURGEON.*

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I feel honored by the invitation of this Section to discuss the subject of traumatic neuroses from the standpoint of a surgeon. I am very glad of the opportunity of doing this, because the subject is one in which I have been interested for some time, one which I have had unique and large opportunity of studying, and one upon which I have formed some definite opinions, opinions which are not widely known or accepted by either the general practitioner or the neurologist; opinions which I am confident will eventually be recognized, and which I consider of much practical value. The unique opportunity of studying traumatic neuroses to which I refer was the study of a train wreck in which the conditions were such that more than two hundred and fifty people were subject to the same amount of violence and the same condition capable of producing mental shock. I have already reported this wreck in detail in an article on real and alleged injuries of the spine. I shall not, however, hesitate to make free use of this material in this discussion, because this wreck furnished the rare opportunity of studying the subject in a purely scientific way, just as we would study and carry out a laboratory experiment. In fact, we could not plan out and carry out an experimental investigation of traumatic neuroses better than was accidentally accomplished by this wreck. I want to emphasize the point too that the study of this wreck was carried out, and the conclusion arrived at and submitted, in a purely scientific and non-partisan spirit.

I am not now a railroad surgeon, and have not been for years. I am not a medicolegal expert testifying for corporations. In fact, I refuse to testify in these damage cases, and do not do so except in the few cases where the law compels me to do so because of my having rendered professional services to the individual. It would be unnecessary for me to make this statement were it not for the fact that experience has shown that the salaried opinions of partisan railroad surgeons, just as the purchased opinions of neurological experts for plaintiffs, are of little scientific value and are justly discredited. It is as a student and teacher of general surgery, governed solely by a desire to learn the truth, that I investigate this subject and submit this report. My report is an indictment of the course usually pursued by the medical attendant in handling these cases. The one point which I especially desire to make clear is this: *The medical attendant, in the majority of cases, is more than any other factor responsible for the development and continuance of the condition known as traumatic neurosis.*

I say "majority of cases," because although I believe that in almost all cases the early and correct diagnosis and appropriate surroundings and treatment woud prevent the development of the condition, still there are many cases where the conditions surrounding the individual are beyond the control of the medical attendant, and a few cases where the nervous make-up of the individual is so susceptible and abnormal that the condition of traumatic neurosis will develop and continue in spite of the best environment and medical management. These cases, however, are rare and can not fairly be cited as argument against the position which I shall take. What do we mean by the term "traumatic neurosis"? In actual work the term is applied and misapplied to several classes of patients:

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1. Conditions resulting from mental impressions made by injury or accident.
2. Cases in which there is a real injury of the nervous system following injury.
3. Errors of diagnosis such as a locomotor ataxia developing some weeks or months after an individual has sustained an injury or been in an accident.
4. Malingering.

We shall exclude at once from this discussion all but the first condition. Traumatic neuroses are abnormal conditions of the individual due to mental impressions accompanying, as a rule, slight physical injuries. This includes the two classes of cases of the authors of to-day, traumatic hysteria and traumatic neurasthenia. A few years ago most of these cases were classed as cases of concussion of the spine, or Erichsen's disease.

The condition, traumatic neurosis, is a mental state, not a disease with organic lesion. The mental state due directly to the injury and mental shock is transient, and under proper conditions and advice is soon recovered from, in the vast majority of cases. When the condition persists, the continuance is due to suggestions furnished by medical attendance, legal advisers, interested and symphatetic friends and relatives or auto-suggestions, with either money or sympathy in view.

For practical purposes, the cases of traumatic neuroses can be divided into two classes: 1, the medicolegal cases in which a claim for compensation exists; 2, the purely medical, in which no such element exists. As examples of the class in which the claim for damages does not influence the case I shall cite a few cases as examples.

CASE 1.—A young woman of intelligence, refinement, and wealth, was in a carriage, which collided with an electric car; she received a slight contusion of skin over the right patella. The occupants of the carriage, three women, were badly frightened by the accident, although neither the vehicle nor horses were injured. They continued a shopping trip afterward and then drove home. Upon arriving home the husband of the lady met them, was informed of the accident and was very sympathetic. Although the woman had walked on her shopping trip considerably after the acident, she now stated that she could not move the limb and her husband carried her into the house. A medical man was called. No injury to the knee could be discovered, but rest in bed was ordered. Later a surgeon was called, who advised a plaster splint; this was worn for some weeks. It was later removed, but the patient would not use the limb, although encouraged to do so. She stated that she had intense pain and that the whole limb was paralyzed. There was no swelling, and nothing abnormal to be found. Patient insisted on remaining in bed. Her general health was good, and she increased greatly in weight. This condition of affairs continued for about two years in spite of many different methods of treatment. Accidentally, it was found that when no one was about she would walk about her room without crutches. Suddenly she discarded her crutches and within a few weeks walked as well as ever, and there has been no relapse. I have seen five or six very similar hysteric knees, and cite this case as an example of a class. I feel confident that had the condition been early diagnosed, that had no plaster splint been employed, and had the medical attendants and consultants bluntly informed the patient that there was nothing wrong with the knee, that no treatment was required, that she should use the knee as usual, the condition of traumatic neurosis would not have developed.

CASE 2.—Mrs. A. B., a woman of 40, sprained her ankle. When I saw her three years later she had not walked a block without crutches. Her husband was satisfied that it was largely nervous. The injured limb was distinctly smaller than the good leg, both calf and thigh measuring more than an inch less. She complained rather bitterly of the pain and assured me that she could not walk. I told her that I would examine the foot with the X-ray. I found nothing abnormal. I gave her definite directions about walking a certain distance, and increasing this each day, and assured her that within a month she would be walking without difficulty. I advised massage and told her that within three months the limb would be as large as the other. I saw her again in about two weeks; she was walking naturally, and much to my surprise she told me that she considered the X-ray the greatest invention of the age, that it had cured her almost immediately, that she had not had a pain from the time the X-ray had been used.

CASE 3.—A woman, aged 40, about twenty years before had a lovers' quarrel, and sprained her ankle about the same time. The quarrel was not patched up and the ankle continued to trouble her. She refused to get out of bed and remained there nursing the ankle for seventeen years. She consulted many physicians. Her parents were very sympathetic and believed that she suffered greatly. One of her brothers was skeptical, and by watching her found that she walked about her room without difficulty when no one was present. At the end of seventeen years she fell into the hands of some christian scientists, who induced her to walk and for some months she walked well. Then, pleading as an excuse that she had again sprained her ankle, she took to her bed, refused to get up, and when I saw her, more than twenty years after the accident, she had been in bed for about three years after her *apparent* recovery from the christian science treatment.

I cite this case as a very extreme one. The history demonstrates that the individual had a peculiarly susceptible and abnormal brain, undoubtedly a sprained ankle or a lovers' quarrel might, with an abnormal brain, be the starting-point of insanity; in this case they were the starting-point of a traumatic neurosis lasting twenty years.

CASE 4.—As an example of the great care which should be employed in preventing an error in diagnosis in these cases, I want to record a mistake which I have made.

A woman, aged 58, slipped on the sidewalk and fell, striking her right hip. She was brought to my service at the hospital two weeks later, stating that she could not use the hip and suffered great pain. She was unquestionably neurotic. I suspected fracture of the neck of femur; but measurement showed no shortening, although it was not very satisfactory, because she was very stout, was about five feet, four, and weighed over 200 pounds. I examined her under chloroform, moved the limb freely, but could find no evidence of fracture. I informed the patient's daughter that I could not find anything wrong with the limb and that I believed it as a case of traumatic neurosis and han
Later, I obtained an X-ray picture,
tinctly an impacted fracture of nc
shortening.

Case 5.—As a sample of how an error of diagnosis might develop a case and how many of these cases of traumatic neurosis can be nipped in the bud, let me cite a recent experience. A young woman, aged 22, while traveling from a southern state to Chicago, to attend a university, sustained an injury of her chest in a railroad accident. In the same accident several people were killed and a number badly injured. She was examined by some local physician at the time, who believed that he found that her breast bone and several ribs were broken. She was put on the train, and sent to the hospital in Chicago, where she arrived forty-eight hours after the accident. My assistant examined her and believed from her history and complaints of pain that the sternum and ribs were broken. He put on the chest a tight, wide adhesive-plaster jacket. The next morning I saw the patient; she was breathing very rapidly and shallowly; she had an expression of great anxiety and suffering. I removed the adhesive plaster and examined the chest carefully. I found no fracture, lungs normal, breast normal. I ordered her to get up, and she found to her surprise that she could do so. I assured her that she was all right and would have no further trouble. Two days later she began her course in the university.

As examples of cases in which a claim for damages enters as a factor I shall cite the cases occurring in the wreck already referred to. The conditions under which this wreck occurred were the following: A long passenger train containing two hundred and fifty-six passengers, trainmen and four tramps, was crossing a trestle, twenty feet high and a half mile long, at the speed of twenty miles an hour. Suddenly the engineer blew the whistle and put on the brakes. For some reason unknown, the engine plunged through the trestle, which collapsed like a pack of cards, and let the entire train fall twenty feet. All the cars except the mail and express remained in their proper position and relation to each other. The accident occurred at 8 p.m., when every one was either standing or sitting. The result was that these people were practically all dropped twenty feet, striking on their feet or buttocks, with the additional force furnished by the sudden stoppage of the train running at twenty miles an hour. It was several hours before relief reached the wreck, but it was then systematically handled. The extent and character of the injuries in each case were noted and temporary treatment and dressing employed. The injured were then taken, part to a city hospital, and part to a country hotel.

Of the two hundred and fifty-six people in the train at the time of the accident, one hundred and twenty-three were injured; of these four were killed outright, and two subsequently died as a result of their injuries. The wreck occurred at night in a sparsely settled country, and help had to be brought from a considerable distance. All of the people were completely and thoroughly demoralized when the relief train arrived. It was necessary to carry forty of them on stretchers to the relief train. It was fifteen hours after the accident before they were all comfortably provided for. I mention these facts to show that conditions capable of producing fright and great nervous shock were present. In analyzing the nature of the injuries we found that four people had been killed by crushing injuries, the exact nature of which we could not state, as no postmortems were made. Twenty-two people sustained fractures, six of which were compound. There was one dislocation of shoulder. There occurred eight incised and lacerated wounds, and eighteen sprains of joints, including ankle, knee, wrist and elbow. In six cases there was nervous shock without any accompanying physical injury, there were fifty-eight cases of contused injuries; two injuries of the eye; one internal injury, probably of both lungs and of abdominal viscera, which resulted fatally within fifteen hours. One hernia, one abortion, and one injury of the vertebral column and cord were reported. Later many of the cases made indefinite claims of injury to the nervous system, the specific claim being in the majority that of concussion of the spine. In twenty-four cases this claim was backed up by medical testimony.

In the settlement of these cases many cases of malingering were found, and frauds were detected in the effort to palm off an old injury or lesion as recent and produced by the accident; such as hernia, bunion, curvature of spine, or displacement of the uterus. Hair which was dyed at the time of the accident had turned suddenly white, etc. One instructive fact in connection with the accident was the ease with which the plaintiffs could obtain medical testimony in support of fraudulent and ridiculous claims.

There were but two gross injuries of the nervous system: one a temporary paralysis of the musculospiral nerve in a case of fracture of the shaft of the humerus, and in the other a gross injury of the spinal cord; this patient died two years later from a bladder-stone operation. In both of these cases the symptoms were definite and immediate, and at once recognized.

In our discussion the interest of this wreck centers on the twenty-four alleged cases of concussion of the spine, backed up by medical testimony. A few of these cases were cases of malingering, the majority were examples of traumatic neurosis. One point I would like to make clear in regard to the medical management of the injured in this wreck is that very few cases of traumatic neurosis developed among the injured in my immediate charge, and those that did develop were entirely well in four weeks. The cases that persisted were in the hands of medical men who believed that the patients were suffering from concussion of the spine, or some other obscure but serious injury to the nervous system, and they had informed the patient and friends of this fact. These physicians were more responsible for the condition than was the accident. I am positive that, had I had each one of these cases in a private room at my hospital, and had the item of compensation out of the way, not a trace of the nerve shock would have remained at the end of a few weeks, and that all of them would have recovered their normal equilibrium. In no cases can the well-posted physician be of as much service, and in no class of cases can the ignorant physician, the partisan physician or neurologist, be of as much injury as in cases of traumatic neurosis.

The following is a very brief sketch of the twenty-four cases of traumatic neurosis developed in this wreck:

Case 1.—A woman, aged 45; no evidences of external injury: claimed injury to back; paralysis of right upper extremity, and that her hair turned suddenly white within a few weeks after accident. Claims severe nervous exhaustion, and permanent disability. A settlement was made and recovery soon followed.

Case 2.—A man, aged 25; no evidence of external injury; claims concussion of spine and refuses to leave room. He uses crutches, submits medical opinion that he is permanently injured; settlement was made and recovery followed.

Case 3.—A woman, aged 28, sustained fracture of rib; claims concussion of spine and permanent injury. She remained an invalid until settlement, and then recovered rapidly.

Case 4.—A man, aged 40, with real injury, bruised leg; claimed concussion of spine, paralysis and permanent injury. He remained an invalid until settlement, then recovered rapidly and returned to work.

Case 5.—This man had two ribs broken, claimed permanent injury of nervous system, remained an invalid, and sued company for $20,000. Shortly before the trial the case was settled. He recovered and almost immediately returned to his business.

Case 6.—A man with no evidence of injury, claimed spinal concussion and permanent injury. He was suffering from rheumatism at the time of the accident, and was in search of a favorable climate to live in. He used crutches. This case was settled and the day the claimant received his check he traded his crutches at a drugstore for some toilet articles, and left the town walking without help.

Case 7.—A woman received a bruise on the chest. She was tuberculous and suffered great nervous shock, and claimed great injury of the nervous system. Three months later she stated that she had not slept since the accident, was weak, unable to work, had had hemorrhages from lungs, due, she claimed, to the injury. A settlement was made. She improved, returned to work and died two years later of consumption.

Case 8 and 9.—A man and his wife. The night of the wreck they stated to me that they were permanently injured. They went home, remained in bed as invalids for seven weeks with the most exaggerated symptoms of spinal trouble. A settlement was made, they left the same week for a short trip and returned entirely recovered.

Case 10.—A commercial traveler. No evidence of external injury, but great fright, typical traumatic hysteria. He was under my immediate care. Complained of intense pain in back and paralysis of lower limbs.

At the end of a week I picked him up in my arms and put him on his feet. I told him that he was making a fool of himself, that he was simply frightened and not hurt. He cried like a child. I held him up on his feet and in ten minutes convinced him that he could walk. He left the hospital within three weeks of the accident, the day the settlement was made. After he left the hospital he consulted a neurologist, who told him that he had concussion of the spine. He was badly frightened. He wrote to me and I referred him to a physician to whom I had written my opinion of the case. This physician examined him, encouraged him to at once resume his work, which he did. I have seen this man repeatedly since, and he is most grateful for the way I handled him, although he thought it rough at the time. His description of his condition is most instructive. As he expresses it, he was so badly frightened about himself that if he had been told that he had a serious spinal injury he is convinced that he would have become a chronic invalid.

Case 11.—A man with sprained ankle claimed permanent injury of the nervous system; remained an invalid; claimed loss of power in injured limb. A settlement was made; he recovered and returned to work after drinking up the money.

Case 12.—A man, with sprain of ankle, claimed permanent injury of nervous system. Recovery after settlement.

Case 13.—A man, with contusion of chest claimed fracture of sternum and spinal injury; stated that he had lost his memory; had great general weakness; inability to work, loss of eyesight, and permanent nervous injury. He remained an invalid for many months, until settlement was made, and then recovered and returned to his work.

Case 14.—A man, with lacerated wound of nose and forehead claimed he had had fracture of the skull, concussion of spine; resulting loss of memory; impairment of eyesight, and permanent injury of the nervous system. The case came to trial. The jury gave a reasonable verdict. The money was paid; claimant recovered and resumed work.

Case 15.—A man, with contusion and laceration of face and shoulder; claimed spinal injury and permanent invalidism. Jury gave a verdict for plaintiff. The case was settled, and man recovered and resumed work.

Case 16.—An old lady, having great nervous shock, with stiffness and soreness after the accident, and no extended injury; claimed fracture of the spine, and submitted as evidence of such, an old spinal curvature; claimed injury of the spinal cord and permanent invalidism. Case was settled and recovery followed.

Case 17.—A girl, aged 20, having nervous shock, with no evidence of traumatism, claimed spinal injury and permanent invalidism. She remained in bed until settlement was made. She then recovered and returned to her home.

Case 18 and 19.—A man and his wife, with no extended signs of injury in either case. Both claimed spinal injury and permanent invalidism from the very night of the wreck. Both had had medical educations. The woman was very hysterical; the man was of more than ordinary intelligence. They wanted $30,000 each. Both became chronic invalids, most exaggerated pictures of traumatic neurosis. The woman claimed a fracture of the spine. She wore a plaster jacket for many weeks, putting it on, however, two months after the accident. The man took large doses of chloral and morphin, and within a short time looked like a physical wreck. They continued this state of thing for a year and a half. They consulted many neurologists and accumulated a vast amount of medical testimony as to their condition. About a year and a half after the accident their claims were settled out of court. Before this neither of them had done any work. They at once resumed work.

These were cases of artificial and induced invalidism. The people were intelligent and apparently honest. They were cases which were pronounced by some of our best neurologists as cases of spinal concussion, by others as traumatic neurosis. Yet there can be no question that it was in the power of an intelligent physician, and within the powers of the patients to have prevented the development of the condition, and the patients could have resumed their former occupations immediately after the accident.

Case 20.—A young woman, with great nervous shock, but no evidence of external injury, claimed at first on the advice of her physician, a traumatic anteflexion of the uterus.

The matter was submitted to me and I informed her lawyers that the claim was absurd, and asked them to submit it to three gynecologists. This was done and the three gynecologists agreed with me. Then the claim of spinal concussion was substituted. In the trial she developed the usual picture of traumatic hysteria, and had an abundance of medical testimony to back up her claim. She received a verdict. The case was compromised, and she recovered.

Case 21.—A man, with no evidence of external injury, traveled two hundred miles the day following the accident. When he returned home he felt sore and stiff.

His wife sent for the family physician, who told him that he had Erichsen's disease, that he must remain in bed five or six weeks and keep perfectly quiet. He was put to bed and given large doses of bromid and chloral, and external applications were made over the vertebral column. The man was ignorant, and had failed in business a short time before the accident. The confinement in bed and the medicines affected his general health, and he lost strength and weight. Three months after the accident I saw the patient. He stated that his mind was affected and that his lower limbs were partly paralyzed. I lifted him out of bed, and persuaded him to walk about the room with my assistance. I informed him that he must get up and take exercise, that he had no injury, and that if he chose he could be entirely well within a month. He looked at me and said: "[illegible] v doctor tells me that I am permanently injured. [illegible] that I am not hurt at all; whom shall I b[illegible]" [illegible] six months of the time of the accident [illegible] trial. The trial was hastened by his lawyers, who feared the man would die before its completion. The man was brought into court on a stretcher. Various tests were applied by experts for the plaintiff, as the dynamometer, the esthesiometer, electricity, etc. It was claimed that his spinal cord was permanently injured. He received a large verdict; this was paid. Within a few months he went to Germany, returned within a short time and resumed work, chopping cordwood.

Case 22.—A woman, having sprained ankle, claimed gross injury to vertebral column, and permanent invalidism.

She submitted as evidence of gross lesion of vertebræ, a prominent and irregular spinous process in the lower dorsal region. This claim was not made at once and the conditions following accident eliminated the possibility of fracture of the spine. Later, the claim was made that she had beginning Pott's disease, resulting from the injury. She wore a plaster jacket for some weeks. Still later, the claim was made that she had sustained some serious injury to her pelvic organs, which had resulted in cessation of menstruation. This, however, proved to be due to pregnancy. A settlement was made, she went on to term, gave birth to her child and recovered entirely.

Case 23.—A woman with sprained elbow, claimed permanent injury to her nervous system. Claim was settled and recovery followed.

Case 24.—A man, with contusion of the face, claimed gross cord and brain lesion and loss of right eye.

Had organic heart lesion. The eye was examined a short time after the accident by a competent oculist, who stated that the loss of eyesight was due to a lesion of old standing. Settlement was made, and recovery, as far as the general condition was concerned, followed.

Many of the other cases talked more or less of having sustained injury of the nervous system. Each of these twenty-four cases obtained and submitted medical opinions that they had sustained permanent injury of the nervous system. The subsequent histories showed that none of them had sustained permanent injury and that they all recovered. They were all cases of traumatic neurosis, with, in some cases, exaggeration and malingering added.

One interesting fact in connection with these cases is that the actual physical injuries were either slight or entirely absent. These twenty-four cases were the only ones of traumatic neurosis developed from this wreck. The individuals who sustained severe injuries did not develop the condition of traumatic neurosis.

The conditions were most favorable for the then so-called concussion of the spine, the traumatic neurosis of to-day. Out of the 250 people, 123 were injured, and 6 people were killed or died as a direct result of their injuries. Among the many injuries sustained, there were but two of the nervous system, one of the spinal cord and one of the musculo-spiral nerve. These were at once recognized. The twenty-four cases, above detailed, were not injuries of the nervous system, but mental states due to injury and later suggestions, such as I have previously described.

I would submit the following conclusion arrived at from the clinical and medicolegal study of about two hundred cases which I have had the opportunity of studying.

1. Real injuries of the nervous system present positive and immediate symptoms.

2. Those alleged injuries of the nervous system, without positive and immediate symptoms of gross lesion are either cases of malingering or abnormal cerebral states, traumatic neuroses, or a mixture of the two.

3. Traumatic neuroses are the result of two factors: 1, a brain readily affected by suggestions; 2, suggestions furnished by an accident with or without injury to the individual, suggestions furnished by sympathetic care or a craving for sympathy, and lastly and of greatest importance, suggestions furnished by medical attendants.

4. To establish a diagnosis requires the immediate and sometimes protracted observation of the patient, as in the study of any psychosis. The supposed refined means of diagnosis, as the dynamometer, esthesiometer and electricity, are seldom of value and are often of positive harm as suggestions to the patient.

5. These cases recover rapidly under proper surroundings and advice when the continuing causes are removed. Recovery may be indefinitely postponed under improper surroundings and advice.

6. No secondary degenerations of the nervous system follow traumatic neuroses. The pathologic conditions due to an old standing traumatic neurosis are the degenerations of disuse and the general deterioration of the individual from confinement, lack of exercise, dejection, etc.

7. The subject of traumatic neuroses will not receive its proper place until the medical profesion recognize their responsibility in the development and continuance of these conditions and until proper means are provided for the punishment of malingerers and their alleged medical experts.

I add a few words in regard to treatment: After definitely establishing a diagnosis, we should handle these patients without gloves. Have a frank, honest talk with the patient alone. Tell him to throw away the crutches, to go back to work. If the general condition is bad give him a few weeks, or even months, of exercise, and possibly change of climate. Tell him that there is nothing the matter with him; that the trouble is imaginary, is in his head and not in his feet or back; that if he will believe you and make the effort he will be perfectly well in a short time. Tell him that the constipation and hemorrhoids, the headache and tired feeling are due, not to the accident, but to his voluntary confinement. Outline definite course of treatment to be followed, a cold bath in the morning and exercise at certain definite times during the day.

If you handle your patient in a perfectly frank, open way, one of two things will happen. You will either cure him at once or prevent the development of the condition, if you see him early enough, or he will go to some other physician. If the other physician is as well posted and honest as you are and gives the patient the same advice, and if all the physicians consulted by these cases handled them in the same way, we should hear very little of traumatic neuroses. I believe, as I have already stated, physicians are responsible for the existence and continuance of the majority of these cases. I desire also to make a protest against the position taken by medical men generally on the witness-stand in testifying on this subject. Not long ago, I heard the testimony of two prominent neurologists on a case which they described as traumatic hysteria. They stated that there was no lesion of the nervous system, but that there was an injury to the higher nerve-centers controlling the will, which was far more serious than a gross lesion of the brain tissue. The jury gave a verdict for $20,000, and yet it is very evident that the man is suffering in no way from the accident. Lastly, I desire to protest against the usual method of neurologists and general practitioners of handling these cases of traumatic neuroses with gloves, diplomatically, which here means without a clear understanding between patient and physician as to the exact facts. The use of electricity and drugs, of refined means of diagnosis to discover and cure a disease which does not exist, the coaxing of the patient, are all apt to prevent a return of the patient to a normal condition.

In my own work, I have found the apparently more brutal and direct, and certainly more honest, method much more successful, and I would urge its general adoption.

MEDICOLEGAL RELATIONS OF TRAUMATIC NERVOUS AFFECTIONS.*

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The text for my present paper is the following case:

J. C., a colored woman, aged 53 years, in good health, without any personal history of alcoholism or syphilis, fell in the dark down a flight of stairs. She could not tell how she struck, or where she was injured, but she was immediately paralyzed in her arms, body and legs. There was no loss of consciousness. The accident occurred on April 9, 1899, and the patient was taken to a large general hospital, from which she was discharged unimproved in a few days for lack of accommodation. There was no history of her condition during these few days except that she was paralyzed as above mentioned. On April 14—five days after the accident—she was admitted into my wards at the Philadelphia Hospital.

On admission her condition was as follows:

Motion.—There was complete paralysis in all the extremities. Power was retained in the trapezius, sternocleidomastoid, and sternothyroid muscles, and in the diaphragm. The muscles of the chest were paralyzed.

Sensation.—Below a line indicated in the diagrams (Figs. 1 and 2) all modes of sensation were absolutely lost.

Reflexes.—There was a slight biceps and triceps jerk on the left side. Both knee-jerks were exaggerated. No ankle-clonus. No plantar reflex. This preservation of the knee-jerks is noteworthy.

Respiration was diaphragmatic and irregular. Inspirations were gasping, and not complete. There were no movements of the chest walls.

The bladder and rectum were paralyzed, and there was consequent incontinence of urine and feces.

Cerebum.—The mind was clear, the patient responding promptly to questions. The tongue was protruded in a straight line.

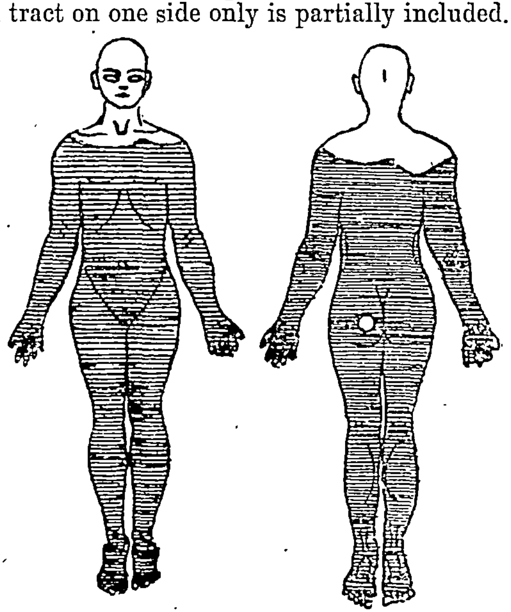
Eyes.—There was an old, probably congenital double external strabismus. It was in no wise related to the patient's condition. It has been made the subject of special study by Dr. Oliver.

There was no spinal tenderness nor deformity. There was no pain in the neck, and the movements in the neck, both active and passive, were good.

The patient's general health was good. She was a large, robust woman, without any disease of the heart, lungs, kidneys or abdominal organs[1].

With slightly fluctuating symptoms this patient lived for five days more. A slight return of sensation was noted in some limited areas, but it was only temporary and never complete. Paralysis remained absolute from the neck down. The knee-jerks were finally abolished. A bedsore formed on one buttock. The bladder and rectum continued paralyzed. Respiration became exclusively diaphragmatic. Thus, it is seen that the patient presented the picture of a total transverse lesion in the middle cervical region, with the exception of the fact that a slight return of sensation in limited areas seemed to indicate that the sensory neurons were not all completely cut off, and the further fact that the knee-jerks were not primarily abolished, as they usually are in a total transverse lesion. With such a picture presented to the eye of the clinician the diagnosis of a total transverse lesion would seem to have been justifiable. Certainly the lesion must have been an extensive one that could thus have abolished all the functions of the cord and caused the patient's death in a few days.

That the lesion was extensive the autopsy abundantly proved, but that it was extensive enough to account for all the symptoms was more difficult to demonstrate. In the diagram of the cord it will be seen that the chief lesion is a small hemorrhage invoving principally the anterior halves of the posterior columns, while the lateral tract on one side only is partially included.



Figs. 1 and 2.—Hematomyelia. Total anesthesia below the neck. Bedsore on left buttock.

The points which I wish to make in describing this case are that the amount of injury in this cord was much greater than a hasty inspection demonstrates or than the drawing shows. With a high power it was seen that the nervous tissue was the seat of edema, that nerve fibers had been compressed or even torn asunder, that minute hemorrhages were abundant and that the large ganglionic cells in the gray matter of the cord were swollen, disfigured and the seat of chromatolysis. In other words, what seemed at first glance like a very limited lesion was found on close inspection to be a most extensive destruction of the essential elements of the medullary tissue. Instead of a circumscribed hemorrhage in the posterior columns, which could not satisfactorily have explained one-half of the symptoms in this rapidly fatal case, there were extensive but microscopic changes involving practically the whole transverse area of the cord, and which explained perfectly the complete abolition of the functions of the cord.

Does such a case as this not more than support a theory? Does it not demonstrate that the abolition of function in these traumatic cases is a
necrotic organic changes in the neu

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*Presented to the Section on Nervous and Mental Diseases, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

[1] This case was originally reported in full in the Journal of Nervous and Mental Diseases, February, 1900.

porting and nourishing tissues, the glia and the blood-vessels? This case, to be sure, is an extreme one, but all the more on that account it permits a panoramic view of the various degrees of injury that can be sustained by the nervous system. All this injury is not gross and "organic" in the ordinary and old sense, but much of it is minute, almost insignificant, and even quite inestimable, and yet as truly structural as is the lesion made by the stroke of an axe.

In further pursuing this subject, we may now turn briefly to some of the clinical aspects of the traumatic neuroses. These affections may be divided into two main groups—neurasthenia and hysteria. I do not propose to traverse this whole clinical field, but merely to discuss some phases of it, and those merely which have to do with the medicolegal relations of these two diseases.

First, with reference to neurasthenia, I have long felt that more precision is desirable in limiting and describing this affection. This term should not be used as a disguise for other affections, and especially for hysteria. My contention is that in those cases of profound neurasthenia, in which the symptoms are persistent, the term "functional" should be wholly abandoned and the position assumed that in the light of modern researches the indications are that most if not all of these obdurate symptoms represent changes in the organic basis. We all know now, since the researches of Hodge and others, that the fatigue neuroses represent distinct changes in the neurons. We are no longer obliged to crave the indulgence of the metaphysicians while we borrow their terms to describe so-called functional effects which are without organic changes. Such distinctions should be abandoned to the schoolmen who still delight and amuse us with their claims that the brain is the "organ" of mind and not the embodiment of it. Surely, pathology, of all the sciences, should no longer be held in the trammels of these scholastic distinctions. On the witness-stand especially such distinctions are fatal. They are quite beyond the grasp of the average juryman, who is only too apt to think that if a disease is not a bodily affair, but only represents the deviations of an intangible function, it is not worth paying for in dollars and cents. I have had under my observation this last winter a middle-aged woman who received an injury and a shock in a smash-up between two trolley-cars. The injury was a punctured wound in the abdomen, which was bad enough, but the shock was far worse. This patient has practically been bedridden for six months, with a painful spine and a paretic leg, and that mental state of worry and discouragement which is worse than all, and her profitable business as a mantua-maker has been ruined. The question arises, am I obligated to describe such a condition as this as a "functional" neurosis? When I consider what I have seen in the cord which I have just described to you, I am quite prepared to contend that that painful spine, and that paretic leg, and that disordered brain, represent distinct changes in the central nervous system, which are none the less real because I have not had an opportunity of viewing them under a microscope.

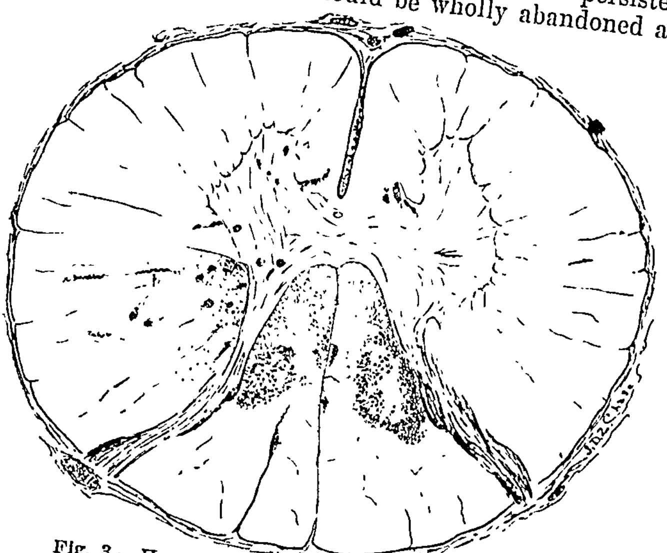

Fig. 3.—Hematomyelia. Fourth cervical segment.

With reference to hysteria, the same ground, I am convinced, may be properly held as in the case of neurasthenia. Of all the traumatic cases I suppose most men will concede that none are more common and puzzling than the cases of traumatic hysteria. That they are usually disguised in our courts under assumed names is a matter of common observation. It is believed with reason that to acknowledge to a jury that a case is one of hysteria is to give the case away. The prejudice against the term is not confined to members of the medical profession, but is widespread, especially among the more ignorant classes, from whom, as a rule, our juries are recruited. This fact has been curiously demonstrated to me by two cases in which I was engaged as an expert witness. In the first case a man, walking along the board walk here in Atlantic City on a wet evening, received an electric shock from a low-hanging arc lamp, with which the tip of his umbrella came in contact. As a result he had a typical hysteric paralysis of the arm. This limb was not only paralyzed for a year afterward, but was the seat of a blue edema, which gave it a badly damaged appearance. In this case the plaintiff's lawyer succeeded in convincing the jury that the affection was not hysteria, but that the nerves and muscles had been destroyed by the mysterious current, although it was demonstrated by the defense in open court that the nerves and muscles responded perfectly to both electric currents. In short, a verdict of $5000 was won by discrediting the diagnosis of hysteria. In the second case, a woman in Philadelphia, with an identical hysteric paralysis of her arm, caused by a blow from a falling sign, failed to obtain a verdict because apparently it was successfully shown to the jury that the affection was purely hysteria. These two cases illustrate perfectly the inconsistencies that prevail in our courts. Both cases were unjustly decided, because not decided in accordance with the facts. The man got more than his hysteria was worth, and the woman got less. Each deserved something, but justice failed to strike the average.

Why should not so-called functional disease which causes the disablement of a limb for months and even years be entitled to the same consideration as the more imposing "organic" affections? Why then should not hysteria, than which there is no more inveterate affection, be a damageable disease? I am not quite prepared to adopt the theory of the motility of the neurons, simply because it has not yet been sufficiently demonstrated. You all know, of course, what this theory is. The idea underlying it is that the neurons may display ameboid movements, and that by retracting or prolonging their dendrites and their neuro-axons with their arborizations, they may make or break contact in such ways as to cause alterations in functions. Thus, we may suppose that in a chronic hysteric paralysis the contacts are broken, and loss of function results. The same thing may happen in the profound anesthesias. The fact that mental impressions may operate to overcome and cure these various paralyses is quite explainable on such a theory, because we may suppose that a mental impulse would be potent to re-establish the lost contact. This theory has its attractions, but it is not yet sufficiently established in the domain of science for us to advocate it, at least more than tentatively. We may fall back, however, upon one of our original propositions, i. e., that no alteration in function can occur without a corresponding alteration in structure. If this alteration merely represents an alteration in nutrition it is yet a real thing, and not a metaphysical abstraction. With such views, I have for some time held that we should group the more permanent stigmata of the grand neurosis under some such term as "organic hysteria." Such a term is consistent with what we are gradually learning about the minute alterations in the central nervous system that underlie all the so-called functional diseases. Such changes are probably as real, though they may not be so permanent, as those that are caused in a neuron by the action of a poison or a process of degeneration. As I am not one of those who believe with John Locke, that it is as easy to conceive of mind without matter as it is to conceive of matter without mind, so also I can not conceive of a purely traumatic neurosis without a change in the organic structure. Let these distinctions be for scholars and transcendentalists, but as for us, in our medicolegal work, let us hold close to our material pathology.

PROGNOSIS AND TREATMENT OF THE TRAUMATIC NEUROSES.*

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The most serious problem which arises in connection with disorders of the nervous system, following railroad or other accidents, is what the outcome will be. The first question asked of a physician when called in to examine a case of traumatic neurosis, either by the patient himself or the corporation by whom he is called, is, whether the patient will recover, and if so, in how long a time. The prognosis in the traumatic neuroses depends upon a number of circumstancess and conditions, and first of all we must determine what is meant by the "traumatic neuroses". Different writers on this subject seem to have views somewhat at variance. Some —for example, Oppenheim and Strümpel—consider the traumatic neuroses as a separate class of nervous diseases, making a distinction between them and traumatic neurasthenia and traumatic hysteria. At the present day, however, it is generally considered that the traumatic neuroses include all of the diseases of the nervous system, either functional or organic, which result from accidents, either through actual injuries or from shock. Of course, in making a prognosis in these cases, the character of the disease, whether organic or functional, is to be taken into consideration, and above all, the length of time for which the affection has lasted. The previous health of the patient or the existence of a neurotic diathesis has much influence on the outcome of nervous disorders following injuries, and heredity should always be inquired into. It is therefore of prime importance to inquire closely into the previous health of the patient and the question of neuroses in his parents or near relatives. The surroundings and influences which are brought to bear upon the patient must also be taken into account in giving an opinion as to the question of recovery. What probably exerts as much influence as anything else on the condition of a patient suffering from traumatic neurosis is the question of litigation. In nearly all cases of injuries from railroad accidents, or those in which corporations may be held responsible, the patient at once seeks compensation for his injuries. He is encouraged in this by his friends, and by lawyers who are only too eager to work up a case. The patient becomes intensely self-centered, and all of his symptoms are dwelt upon and magnified. As long as litigation is pending, little or no improvement takes place, but on the contrary, the patient becomes more neurasthenic and hysteric. The questions of his counsel and examining physicians are liable to bring up new symptoms, and like all neurasthenics and hysterics, suggestion may develop features which had not before been thought of. It is therefore impossible to prognosticate as to the future of a patient with traumatic neurosis until damage suits are put out of the way.

The question as to whether a patient is simulating or not is a very serious one, and requires careful and thorough investigation. Most neurologists hold that simulation is rare, but that exaggeration of all of the symptoms is frequent. On the other hand, railway surgeons believe almost universally that simulation is very common, and that traumatic neurosis is, in the main, an imaginary disease. The truth, as usual, lies between the two extremes. Undoubtedly there are many cases of simulation met with, but they are not very numerous; and it is undoubtedly the case that exaggeration of all the symptoms in cases of traumatic neurosis is very common, whether there be or be not litigation in view. The opportunities for proper treatment will have much to do with the prognosis in such cases, and, after all, we may be justified in giving as hopeful a prognosis in cases of traumatic hysteria or neurasthenia, with favorable conditions for treatment, as we would in a case of the same disease where trauma had played no part, provided always that litigation and damage suits are set aside. The extent of hysteria and neurasthenia, and the length of time which the affection has lasted, must be taken into consideration. As a rule, a case of well-marked neurasthenia or hysteria, following injuries, will not get well until after two or three years of careful and thorough treatment under favorable surroundings. The prognosis in traumatic hysteria is not so hopeful as in neurasthenia, and the contractures and anesthesia may last for years. Traumatic lumbago is often persistent for years, and may leave the patient with a permanently weak back. Cold or strains may cause a return of the symptoms after a long interval of apparent health.

Treatment: It is of the first importance that treatment shall be begun as early as possible in these cases. The longer a case goes without treatment, the more difficult will be its cure, and it is as equally important to eliminate, as far as possible, the influence of litigation during the progress of the case. The effect of frequent examinations by experts and conferences with friends and counsel in regard to a damage suit, by keeping the patient harassed, aggravates the disease from which he is suffering, and creates a condition of expectancy which counteracts the results of [illegible] atment of organic neuroses arising [illegible] differ from that of the same disease not dependent on injuries. The treatment of traumatic neurasthenia and traumatic hysteria is best conducted by means of "rest treatment." Prince[1] says: "The rest cure, except so far as it secures isolation and has a mental influence, is illogical and useless, and aside from a certain class of cases, is not to be recommended." All that he has to offer, however, as better treatment, is in the line of mental therapeutics. He says that the physician should explain to his patient that his trouble is either neurasthenia or hysteria, and that he must exercise self-control and get rid of his pains, hyperesthesia and other distressful feelings by realizing that they are not real. He suggests hypnotism, the use of static electricity and hydrotherapy. On the other hand, almost all other writers on the subject are agreed that the treatment which promises the best results in these cases is the "rest treatment."

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This plan of treatment is too well known to require special details. It is only well to refer to the necessity for the thorough and radical carrying out of the treatment in every particular, in order to secure a successful result. It is also essential to bear in mind that unless the question of litigation is settled in some way, or is held in abeyance, it is useless to attempt to treat the patient, either by this means or by any other. It is often the case that a patient is brought to a neurologist for treatment, either in a hospital or elsewhere, and the fact that a damage suit is contemplated is withheld until after the treatment is over. The physician is then made use of to further the ends of the patient in securing damages. The fact that he has been obliged to resort to a prolonged course of treatment is used as an argument in his behalf, and the physician's experience in the case is drawn out on the witness stand. One should always be careful to discover, if possible, whether litigation is considered by the patient before beginning treatment.

Another troublesome feature in the management of a litigation case by rest treatment is that the medical friends and family physician of the patient are insistent upon visiting him, and even when one exercises the utmost tact in refusing these visits, he is liable to give great offense. In the treatment of a case of traumatic hysteria or traumatic neurasthenia, one should insist upon rigid isolation, and on complete rest in every detail being carried out. The patient should remain in bed, and should not rise even for the calls of nature. A thoroughly competent and trustworthy nurse should be employed, and one who can offer a certain amount of entertainment and occupation to her patient without causing him to make an effort himself. The nurse should make the patient's toilet, and in some cases should even feed him. The points to be attained are, improvement in the general nutrition of the patient, the building up of flesh, improvement in the quality of the blood, and giving entire repose to the overtaxed and overstrained nervous system. The length of time which the treatment should last, of course, depends on the severity of the case, the temperament of the patient, and the duration of the disease before treatment has begun.

The rest treatment is not an infallible cure for all cases of neurasthenia and hysteria, and in those cases in which it fails, a complete change of climate and mode of life is often beneficial. The seashore agrees well with cases of neurasthenia, and great advantage may be derived from sending the patient, with a competent attendant, to a quiet resort on the seacoast, where he can have boating, sailing and an outdoor life generally, with a moderate amount of exercise. In patients who are unable to afford a thorough course of rest treatment, and often we find that this is the case, partial rest treatment may be given, with advantage in some cases, at the patient's home. It is not often, however, satisfactory, and it is much better to insist upon hospital treatment in cases where the patient can not afford the expense elsewhere.

Hydrotherapy is of great utility in traumatic hysteria and neurasthenia, either as an adjunct to the rest treatment or alone. The systematic application of douches and baths improves the general health of the patient, and is a means of improving the tone of the nervous system. Where a complete hydropathic establishment is available, the patient should always be sent there. The usual regimen consists in the patient's remaining in the hot box at a temperature of from 130 to 150 until sweating is induced, and he is then given the circular, or so-called "needle" bath for a couple of minutes at a temperature of 110, followed by a temperature of 95, for the same length of time. This is succeeded by the Scotch douche, which consists in alternating douching of the spine with a temperature of 110 and 65, at a pressure of from fifteen to twenty-five pounds. The fan douche may be used instead of the douche of full force. If a regular bath establishment is not within reach, the douches may be used at the patient's home, by having effusions of hot and cold water alternately poured down the spine, and an extemporary douche can be devised by attaching a piece of hose to the faucet of the bath-tub. The drip sheet and wet pack are advantageous in cases where insomnia is a troublesome symptom. When other means fail, it is justifiable to use hypnotism, but this procedure is of very little permanent value and is not regarded with any confidence by the vast majority of American neurologists. Even in cases where through hypnotic suggestion there is disappearance of some of the hysteric phenomena, the relief is seldom permanent. We must remember that, even in cases where the patient is susceptible to hypnotic suggestion, it does not prove the absence of organic disease

Drugs are of comparatively little value in these cases. The so-called "nervines" and "nerve tonics" are of but small value. Of course hematinics are indicated, and arsenic and strychnia in small doses help to improve the tone of the nervous system, but we must depend more upon regimen and proper feeding for the improvement in the nutrition of the body than upon drugs. The bromids are especially disadvantageous in neurasthenia and hysteria. If insomnia exists, it is better to combat this with hydrotherapy and hygienic measures than to use drugs. If one must give a hypnotic, it is best to give trional or chloralamid in small doses. Traumatic lumbago requires absolute rest in bed, with the use of massage and electricity. In severe cases, the use of the plaster jacket is sometimes necessary. The application of galvanism to the tender region of the back is serviceable, and static electricity often does good. After a sufficient period of rest, gentle gymnastic movements should be used.

DISCUSSION ON PAPERS OF DRS. BURR, BEVAN, LLOYD AND SINKLER.

Dr. F. X. Dercum, Philadelphia—I expected to hear from the lips of a surgeon statements such as were made, but hardly such reckless statements. Certainly, if the most eminent medical men in the country testified in his experimental 250 odd cases, we are justified in assuming at least a position of doubt; these men are probably neither rogues nor fools, and it becomes a serious question as to whether we are to accept Dr. Bevan's sweeping denunciation of them. That persistent symptoms follow in cases of trauma in which no element of litigation is present, we all know. Such cases are constantly being placed on record. Some of the most persistent have been non-litigation cases. I am thoroughly in accord with Dr. Lloyd's position that these cases are not functional but are really organic; that there is some intra-cellular or other change; that something is wrong with the nerve cell if it ceases to act, or with the nerve-fiber if it ceases to conduct. The question is: Do these people invent the contraction or reversal of the color fields? Do they invent the stigmata of hysteria? It is absurd to suppose such a thing.

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[1] American System of Practical Medicine, Vol. iv, p. 467.

It is perfectly true that justice is not always done in the course, but it is true that an average of justice is done; and I have not such a contempt for the jury as some of my brethren have. It is just such differences of opinion as we have seen here today which make it difficult for the layman to decide what is right. I have rarely met with cases in which the damages are greatly in excess; if so, the cases are appealed, or new trials are had, and a smaller verdict given. It is the exception too that large amounts are given; more often the amount which is given is inadequate to the actual injury sustained. I am fully in accord with Dr. Sinkler's views in regard to treatment, and I can also endorse his statement that the rest treatment does not always cure these people. Some of them are hopelessly injured.

DR. DANIEL R. BROWER, Chicago—I am glad that I had the privilege of listening to Dr. Bevan's excellent paper; no matter if we differ from him in his conclusions we must admit that he has made a very careful study of his cases. The members of the Section, generally, will agree with Dr. Bevan that many cases of so-called traumatic neurosis are manufactured by lawyers and doctors, the symptoms being developed by the expectation of damages. If all physicians were as judicious in their management as the essayist, there would be but few suits for damages. There is, nevertheless, nervous disease; of a prolonged and intractable character, that is produced by trauma. The case presented by Dr. Lloyd is in point and exceedingly instructive, demonstrating that death may occur in a traumatic neurosis, with pathological lesions, that seemed to be trifling.

Dr. Bevan's interesting paper has distinctly set forth the fact, which we all recognize, that many of the cases can be cured by suggestion.

DR. SAYRE, New York—I for one must say that I do believe in the existence of traumatic neurosis, and I have seen these neuroses simulate very closely surgical lesions. I have in mind one case that received a violent fall, was supposed to have injury of the spine, was treated in one city for six months for Pott's disease, in another by means of a plaster jacket for about a year, in another with a spinal support, and in a fourth with another plaster jacket, and who presented almost a typical case of Pott's disease of the spine. One leg was very much atrophied, and the patient was hardly able to move without assistance. I watched that case for a week or so before I came to a diagnosis, and it seemed to me that it must be something besides the spine. These symptoms had all come on immediately after an injury; there was no question of litigation, as it was a runaway accident. I found that the patient had a retroflexed uterus, pressing on her sacral nerves, and on an operation being done, the atrophy of the leg disappeared, the pain on movement and the muscular contraction of her spine also disappeared. Four other men, whom you all know very well, of wide experience, had had her under observation for a period of about three years. That woman had simply a nerve irritation from pressure, and when that pressure was relieved the atrophy of the leg passed away.

I have seen another case of a woman who was working on a stamping machine that she drove with her foot, to punch button-holes or something of that sort, and she also developed a curious train of symptoms in the leg with which she was accustomed to work. A violent pain would occur in this leg and knee. Then a large blue swelling would occur, according to her statement. That knee became very tender; she said it was impossible to move it; it seemed to so much resemble inflammation of the knee-joint that one of our most prominent surgeons in New York opened that knee and, finding nothing, sewed it up again. It was concluded that she had an abscess in the head of the tibia, and it was suggested that that be explored. She would not allow this, and went to another hospital. She was referred to me by a colleague under the impression that it was a chronic inflammation of a knee-joint. I came to the conclusion that it was not an inflammation of the knee-joint, as the temperature of that knee was very much depressed below that of the other. The red bulbous swellings were also contraindication. I believe that this woman had an inflammation of the nerves of her leg, probably caused by her occupation. She was very neurotic. I put her leg at rest, I found that she had an infantile uterus; this I stretched and faradized, and kept her at rest for some months, and then gradually gave her permission to walk slowly; I toned her up and kept control over her mind at the same time. I took her out of the hospital and kept her under my personal control.

I think that there is no question at all in these cases that the personal element is very largely responsible for the rapidity with which you cure your patients. If you allow your patients any laxity they are very apt to relapse. This patient has at the present time an absolutely perfect leg and knee, although if she does too much with it she is apt to have twinges of pain.

DR. CHARLES K. MILLS, Philadelphia—This subject is too important a one not to be thoroughly discussed. Naturally the attention of the neurologists here would be directed to the statements made by Dr. Bevan, the railroad surgeon, and I think with Dr. Dercum that the statements, or at least the sweeping conclusions of his paper, should not be left to pass unchallenged. For many years I have had a very large experience in litigation cases. This experience has not been solely obtained in connection with the plaintiff; perhaps more frequently I have been employed by attorneys for the plaintiff than for the defendant, from the very nature of the case, and from the fact that most corporations have particular physicians in their employ. I have, however, somewhat frequently testified for corporations. I have even appeared in court in two cases on the same day, in one of which I was a witness for the railroad and in the other a witness for the plaintiff in a case against it. More than once I have examined cases for the claim agent of a railway at the same time that I have had cases for the plaintiff against the railway. I mention these facts merely to show that my position is not taken because of any particular prejudice or bias which has been obtained by the manner of my employment as a medical witness or medical adviser. The result of my experience is that, while in some, and perhaps many, cases exaggeration is present, and while also there are a few cases of absolute fraud and simulation, yet in the vast majority there is some genuine basis in real disease of the nervous system or some other part of the body for the claims which are made. This may not always be the disease which it is supposed to be by the physicians who are in attendance or the physicians who are called in either to assist the side of the plaintiff or the side of the defendant. It is important to study the statements made by our friend, the railroad surgeon, in the light of practical experience of this kind. His statements, as I recall them, were that there are very few cases of real injuries to the nervous system, even in accidents of so serious a nature as that to which he alludes, or at any rate in a certain percentage of the cases which he presented—not in the whole number. Above all, he made the statement, which is a serious one, that the cases were made by physicians who were called in to examine them and who were called in to testify. I think this last statement, in particular, is one which should not go unchallenged. I do not know what they do in the West in these cases, but I know the course which is followed in this part of the It happens that the railroad surgeon is not a patient who is alleged to have, or is supposed to have, some disease of the nervous system. If he is competent he will be likely, if he is an honest man—and usually he is—to make some statement as to the real state of affairs. The railroad surgeon sometimes passes by the real symptoms which are present, or he adopts the "brutal" methods which have been recommended in the paper we are discussing. The cases are forced to a speedy settlement, and are supposed to be cured. Often they are supposed to be cured for reasons which are wholly insufficient, because, for instance, the patient gets married, or goes on with his business, or does not present any active symptoms, or at least any symptoms which would be open to an ordinary observer. In many cases I have known such patients, years after litigation was ended and settled, to still present serious symptoms.

Dr. William M. Leszynsky, New York—I think that every experienced neurologist will echo the sentiments of Dr. Mills and Dr. Dercum in regard to this matter. It has always seemed to me that the railroad surgeons examine these cases with the preconceived notion that all are frauds, and, consequently, the diagnosis is often erroneous and results in unnecessary confusion.

I have recently seen two patients and read the reports of the railroad surgeons, which were submitted to me by the railroad companies, in order that I might confirm or negative the official conclusions that these claimants were frauds. Both instances were perfectly clear cases of traumatic hysteria, with all of the stigmata, and many of the symptoms with which we are so familiar. If the railroad companies which employ surgeons at an annual salary would also employ a neurologist such errors in diagnosis would be avoided. The methods, recommendations and conclusions of the reader of the paper are, in general, impracticable and unscientific, and are not in consonance with accumulated neurological experience.

Dr. W. T. Bishop, Pennsylvania—My own experience as a witness in behalf of corporations is that they want you to tell the truth before and after going on the witness stand. I saw one accident in which some forty odd persons were injured, and saw every case. There was one lady who claimed to be very seriously hurt; I found that she had a very large button on her petticoat, and she imagined she had been hit in the back.

Dr. A. E. Sterne, Indianapolis—It strikes me that this question can be looked at from several sides judiciously and wisely and with perfect honesty. I am much of the mind of Dr. Brower when he says that the way things are done in the East is very different from the Middle West. I believe that a large part of the conditions that arise in these patients are bred and born of circumstances. It depends very often on the surroundings, and largely on the locality in which a person lives as to whether or not he will put his case in legal hands or whether he has any choice in this matter whatever. I know that in all parts of Indiana there are lawyers in every town, and several firms of lawyers in the city of Indianapolis, who make it a point the moment they hear of an accident to investigate it and step in and take charge of the case if possible. Those men study up these questions, usually not with the acumen of a neurologist, and usually a neurologist can trip these men up, but ordinarily they instill into these claimants for damages a certain amount of ability to do and say things as they would be done and said by patients with these injuries. As far as I am personally concerned, I try to keep out of every damage suit, whether it is for a corporation or a private individual. Further, there are a great many of these cases in individuals who are undoubtedly injured, and permanently injured. Neurasthenia, whether we meet it simply or traumatically, is certainly a loss of power of the nerve cells. Fright causes conditions outside of accident; why not then in accident? Every year the question of expert medical testimony comes up in almost every society, and we very seldom come to any definite conclusions; in fact, we can not well do so inasmuch as the law allows so much latitude in such matters. Under all circumstances this question must be very carefully handled. It would certainly be a gross error to declare that every damage case for injuries received is fraudulent, or even suspicious, but it is just as well to bear in mind the apparent necessity which compels a claimant to remain invalidized as long as litigation is in progress.

Dr. David I. Wolfstein, Cincinnati—From the tone of some of the arguments made here one might think there was doubt as to the existence of the condition known as traumatic neurosis. I certainly thought, notwithstanding the rather brisk argument of the surgeon, that traumatic neurosis was an accepted and well-defined state. Even after the surgeons have eliminated malingering, and the ills born of pending or intended damage suits, there are certainly many cases which are deserving of the name and which I fancy would defy most obstinately the essayist's methods.

I should very much like to have heard brought out in the discussion more exact information as to classification. Shall we differentiate between traumatic neurosis and traumatic hysteria? Shall we reserve the term neurosis for those cases which do not present any hysterical stigmata? Furthermore, it seems wise to me to limit the term "traumatic neurosis" to such cases as do not present palpable and visible lesions, at least of grosser nature. For this reason, with the greatest respect for Dr. Lloyd's remarks, I do not think a case such as he quoted should be made to bear upon this subject. I doubt if a case so acute, so rapidly fatal and with such grave symptoms, presenting what seems to me to have been small hemorrhagic foci, is properly a case of traumatic neurosis. I think traumatic acute myelitis would probably better apply.

Of course, we must continue to believe that every pathologic condition has underlying it a corresponding anatomic, or molecular alteration of tissue, in the nervous system, as elsewhere. However, I fear we are accentuating too enthusiastically the advantages of the Nissl, and even the Marchi, method in diseases of this order.

Dr. Richard Dewey, Wauwatosa, Wis.—I regret that Dr. Bevan did not remain to hear the discussion of the paper, and to sum up in answer to the objections raised. The paper is one which I heard him read several years ago before the Medicolegal Society of Chicago, and it seems to me desirable that the secretary of the Section be invited to request him to bring his paper down to date and to report at the meeting of this Section next year, giving any further light that may be possible on the cases which are reported as they stood several years ago. The remarkable fact of all the patients recovering that were under his care, and none of those, or apparently very few of those that were not, would make it seem that there was something fallacious in that. It is possible that the patients, as has been mentioned here, who apparently were well, might have many symptoms remaining of the neurosis from which they suffered, and that the apparent recovery was not merely the result of their being under the care of a particular physician.

Dr. Watson—I want to speak of the possibility of injuries being very slight, so far as external appearances are concerned, and yet develop very serious nervous disturbances, extending over years. I recall to mind a case of railroad injury, some eight or nine years ago, where there seemed to be but very slight injury, with recovery in three weeks' time, but after about five years she exhibited symptoms which were only referable to the accident; until she came under my treatment she was a hopeless invalid.

Dr. Nathan Herman, Baltimore—I notice that there is a tendency in this interesting discussion, the whole of which I unfortunately did not have a chance to hear, to make a distinction between psychoses and neuroses, between functional and organic derangements. I am one of those who believe that there is no functional derangement without an organic basis, and although, as in other diseases, the extent of the organic lesion may not comport with the functional disturbance, or vice versa, still I believe there is always some organic disturbance as the basis of the trouble. If this is difficult to find post-mortem, as we know it is, how much more difficult ought we expect its discovery to be ante-mortem.

I will cite a case of mine which will at least serve to illustrate the reality of the disease. It is the case of a youth of 20 years of age, who, in consequence of a slight accident in connection with a cable car, developed a marked tremor, or rather jactation, of the right leg. He went the rounds of hospitals in various cities, becoming, with some remissions, on the whole gradually worse, and finally landed at the Hebrew Hospital, of Baltimore. When he came under my treatment his condition resembled very much that of paralysis agitans, and I so called it in a paper presented before the Medical and Chirurgical Faculty of Maryland. There was no possible reason why this youth should malinger. The case was finally cured by hypnotism, all other means having failed. It might be contended that the fact of the cure being effected by psychical means would prove the purely psychical nature of the case, but, on reflection, it appears not more unlikely that a pathological condition with an anatomical basis should be benefited by the exercise of psychic function than that a similar state of affairs in the so-called physical realm should be benefited by means of the exercise of physical functions, which, indeed, is a common occurrence. The success of the psychical treatment, therefore, by no means justifies the condition that a lesion did not exist.

DR. G. W. MCCASKEY, Fort Wayne, Ind.—It seems to me that there must necessarily be some sort of anatomic basis for the chronic functional disturbances of neurasthenia, although there are some things which appear very difficult to explain in harmony with this theory, among which may be mentioned the sudden development of symptoms in some cases. These anatomic changes are not, of course, supposed to be of a gross character, but relate to the intracellular structure of the protoplasm. Such changes may be the result of either excessive fatigue, autointoxication or traumatism, as in the cases of traumatic neurasthenia, the existence of which was pointed out long ago by Charcot. There are many elements in these cases connected with railroad injuries, the psychical ones being quite important, and I can fully corroborate the statement made that these cases, especially when concerned in litigation, practically always exaggerate their symptoms. Sometimes this is done consciously and at other times unconsciously, but always to the great detriment of the plaintiff in the eyes of the expert, the jury and the court.

DR. BARKER—It must be remembered that in all large railroad accidents there is a certain percentage of those who go on their journey and make no claim for damages, and yet who are injured seriously by shock.

DR. C. C. HERMAN, Pittsburg—One feature of these cases is that when a physician gets on the stand to testify he is put upon self-defense, as each lawyer is trying to obtain such answers from him as will strengthen his side of the case—questions of a double meaning, unanswerable until rearranged and answered separately. I think the author unnecessarily severe in some of his statements; also he seems to have little faith in either the ability or honesty of the neurologist. I have often seen faith limited by the meager knowledge of the subject. I am willing to endorse the essayist as a surgeon on the merits of his paper, but not as a neurologist.

THE CHAIRMAN—I believe that some misapprehension has arisen as regards Dr. Bevan's stand on this subject. I happen to know Dr. Bevan very well, have talked with him about the affections under consideration, and am sure he does not at all believe that these patients with traumatic neuroses or psychoses are simply simulators, exaggerators, liars and plunderers of the railroad systems. I regret that he could not remain to explain his position, but I think he did not make any statement approximating that idea in his paper. What he particularly meant was that if taken promptly after the accident, and then handled properly, the old chronic cases of traumatic neurosis, which he recognizes as a disease, would be obviated. I believe that that is a fair statement of Dr. Bevan's position as regards that particular point.

DR. CHARLES W. BURR, Philadelphia—It seems to me that a very large part of the discussion this afternoon has been used in breaking down an already open door. Certainly no one doubts the existence of traumatic hysteria. I do not know what Dr. Bevan meant to say, but certainly the whole implication of his article was that practically hysteria was another name for fraud. That was the moral most of us drew from his paper. Of course, men may pretend to have hysteria, as men pretend to have broken legs, but the reality of the existence of the disease is beyond question.

I was in hopes that something would be said on the other side of the functional question. Most of the speakers have assumed that hysteria has an anatomic basis. There is no known anatomic basis for hysteria. If by organic disease we mean a disease that, either to the naked eye or to the microscope, will show some change in which we can say, from the state of the organs in death, without any prior history, that the patient had that or the other disease, then we must say that hysteria is not an organic disease. The most careful study will not enable any man to say post-mortem that this was a case of hysteria. So long as that is true, we are bound to say that hysteria is a functional disease.

As to prognosis, I have had one case which lasted for twelve years, although it was settled three months after the accident. The patient is now a classical picture of hysteria, and will probably so continue until death. As to the possibility of disease, at first functional, becoming organic, a year ago I made an autopsy on a woman who had been an inmate of the Philadelphia Home for Incurables for fifteen years. She was sent there fifteen years ago with a diagnosis of chronic incurable hysteria. She was paraplegic, anesthetic, and had some special sense symptoms. Many very good physicians had examined her during the years of her illness, and all agreed that she had hysteria. I watched her three months out of every year for ten years. She did not change at all. Last year she died of Bright's disease, and post-mortem there was a diffuse myelitis of the spinal cord. Did that woman start out with a functional disease thirty years ago and finally end up with the organic disease, or was the disease originally organic? Of course, I agree entirely with Dr. Sinkler as to treatment.

DR. WHARTON SINKLER—In regard to the matter of bulldozing sick people, the fact that a person may be made by strenuous effort and insistence to get up and go about does not prove that he has no organic disease. It is a well known fact that a person having an organic disease, like a brain tumor or a myelitis, may, through hypnotic suggestion, be brought to do certain things. The fact that this has been done by the method which Dr. Bevan has suggested does not prove that his cases were simply imaginary.

PHYSICIANS AS SPEAKERS.

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Introductory Remarks.—The communication of thoughts by means of spoken language is an art that can not be acquired to any great degree of perfection except by long and continued practice. Some physicians are more highly gifted than others with facility of expression, and they are naturally endowed with the power of eloquence; but to none is it at all times an easy process to embody, in exact and appropriate language, the various trains of ideas that are passing through the mind. However distinct may be a physician's voice, however vivid his conceptions, he is often conscious that the phraseology at his command, particularly in public speaking, is inadequate to do them justice. He seeks in vain the words he needs, and strives ineffectually to devise forms of expression which shall faithfully portray his thoughts. He employs words and phrases either too general or too limited, too strong or [illegible] feebl[illegible] [illegible]hich suit neither the occasion nor the [illegible]

It has been said that physici[illegible] advantage in public speaking.

moned to testify in courts of justice, where their resources of expression may be taxed for hours. They are frequently placed on boards of education, on committees dealing with sanitary conditions, and on the common councils of cities. In meetings of citizens they are asked for their views on propositions affecting the public health, and, if successful in their professional careers, may be associated with the faculties of medical colleges. They are also members of city, county, state and national medical associations, where debate is had on papers read and questions relating to the rights, privileges, or standing of the profession, or regulations for the management of the organizations. Yet for such positions many, otherwise qualified, are unsuited because they have neglected the study and practice of free expression. Some distinguished members of the medical profession have deplored this lack and have urged upon medical students the importance of attending to the subject.

Voice and Pitch.—The pitch, intensity, and amplitude of a speaker's voice have much to do with the work of the reporter; in that they will greatly expedite his work or render it extremely difficult. A physician, in addressing a convention in a large hall, may pitch his voice so low that perhaps only one-half of the members can hear distinctly what he says, and it is largely guesswork for the other half to grasp his meaning. If a reporter be reporting the proceedings of a large association, as, for instance, the American Medical Association, and the members rise and speak from various parts of the hall, the pitch of their voice will play an important rôle for good or bad. The acoustics of a hall may be perfect, but if a physician's voice is improperly pitched, he will be imperfectly heard; and, in such instances, incorrectly reported. It is an irksome task for any reporter, no matter how acute his hearing may be, to report a physician who has a low-pitched, thick voice, coupled with a mumbling mode of utterance. On the other hand, the physician who takes cognizance of acoustics and pitches his voice in a much higher key, if he articulates well, can be heard in the remotest nook or corner of a large convention hall without apparently any unusual effort. A low-pitched voice, combined with rapidity and indistinctness of utterance, will worry most reporters. A physician with a tolerably high-pitched voice may be clear and distinct in utterance, yet excessively rapid in delivery. His clear-cut sentences may flow uninterruptedly at the rate of between 160 and 190 words per minute. Such a man can be reported with comparative ease by an efficient hand. Reporters sometimes have to report physicians with imperfectly attuned voices, who speak in a go-as-you-please fashion. Their sentences are diffuse, involved, and deficient in precision. The one who tries the mettle of the reporter is the quiet, easy, fluent speaker, who speaks just loudly enough to make himself distinctly heard, and pursues the even tenor of his way without a pause, without emphasis, without anything that can check the rapidity of his utterance.

It is a pleasure to report the masters of language, of tone and gesture, who possess voices remarkable for their volume and range and their capacity to express every shade of feeling and of passion of the human soul. Deep in tone, and perhaps melodious, such voices are magical in their power of controlling the feelings of those who listen to their varying cadences and exquisite modulations. The Rev. Joseph Parker said that the late Mr. Gladstone had "a rich, round, deep, expansive, melodious, grand voice." The voice of Henry Clay, we are told, had "an indescribable charm. It could ring out in trumpet tones, or it could plead in low, plaintive notes, which pierced and thrilled the hearer." The voice of Daniel Webster was "deep, rich, musical, flexible, and of prodigious volume and force." Mr. Lecky, in writing of O'Connell, says: "With an easy and melodious swell, his voice filled the largest building and triumphed over the wildest tumult, while, at the same time, it conveyed every inflection of feeling with the most delicate flexibility." On the other hand, Thomas Jefferson failed as a speaker simply for lack of voice. His voice became guttural and inarticulate in moments of great excitement, and the consciousness of this infirmity prevented him from risking his reputation in debate.

Wendell Phillips advised, for public speakers, a sustained conversational tone, a little elevated above the ordinary, with an effort at distinct enunciation. He advised, too, vernacular speech, even colloquial in tone.

A clear, distinct, far-reaching voice is undoubtedly a natural gift, although physicians, as speakers, can do much by training to acquire an agreeable tone. In reporting loud, excitable, inflammable speakers, I have met with difficulty at times in catching the exact words, owing to deficient enunciation or muffled syllables. Occasionally a great speech is delivered which seems to preserve in print some of the chief elements of its power; but in the vast majority of instances it is but the worthless remains which the most expert reporter can give of that which, in its utterance, so charmed or electrified the audience. Bright, Gladstone, Phillips, Clay, and other great orators understood the secret of how to pitch the voice so as to make it audible to everybody in a large hall. If the acoustic properties of a hall are good, the voice pitched in the right key will carry; if those properties are bad, the shouted words will be heard no better than if they were whispered.

As the possessor of a good, clear, penetrating voice, I may mention Dr. Dudley S. Reynolds, of Louisville, Ky., who usually takes a conspicuous part in the proceedings of the general sessions of the American Medical Association. A more powerful, rotund, far-reaching voice is rarely possessed by any public speaker. It is an organ-toned basso of unusual range and carrying power. Whenever Dr. Reynolds utters the words, "Mr. President!" in true oratorical style, in a general meeting of the Association, it is the signal for craning of necks and upturned faces. He commands attention at once. The same may be said of Dr. W. T. Bishop, of Harrisburg, Pa., who has a naso-metallic voice of wonderful carrying power. He likewise takes an active part in the general meetings of the Association, and whenever he rises to speak and the President asks him to announce his name and state, he exclaims, "Bishop, of Pennsylvania," with a trumpet ring of the voice that can be heard in the remotest nook of a large assembly hall.

The voice and manner of some speakers make those listening restless, weary and uncomfortable, even when the subject-matter of the address was valuable and of interest, the speakers themselves being usually entirely unconscious that the effect produced was so contrary to their aim. Doubtless, too, nearly all have at some time been made sensible how much of soul-stirring power may be communicated by the tones of the human voice alone, whether employed in speech or song, and I can appeal to the experience of many to witness that it is not so much in the words, however intense their meaning, as in the tones which convey them, that the soul's utterings are clearly recognized. The possibilities and results of a good voice can not be fairly estimated; they are too far-reaching; and it requires but little thought on the subject to realize that the direct benefits accruing to the possessor of a clear, well modulated voice are incalculable. The conversion of a poor, unpleasant voice to one of rich and musical quality discovers to its owner the energy of unsuspected forces.

The disadvantage of a weak voice or of speaking habitually in a feeble manner is the not being heard at all, or with difficulty. But a more subtle and pernicious consequence is that it reacts unfavorably upon the mode of thought and expression. While speaking too low is a fatal impediment, it is detrimental to speak too loud, for the reason that the ear is pained, the attention distracted, emphasis defective or excessive, the nerves of the hearers irritated, and if the voice be in any degree strained, it will be neither sweet, soft, nor agreeable. The consonants should be articulated distinctly, but not to the neglect of the vowels, in which inhere all the best qualities of the voice as well as its carrying power.

It is said that a medium pitch should be the basis of speech. From it one may rise or fall, according to intellectual and emotional requirements. Height and depth are necessary. Beecher said, "What a speaker most needs is to strengthen his ordinary conversational voice, without giving it a hard, firm quality; that is, without destroying its flexibility and power of adaptation to every mood." It is a fine art to be able to lower one's pitch. Some scream on to the end during an animated discussion from sheer exhaustion; others spasmodically fall to a low note, but immediately forget themselves and run up to the same pitch, vociferating until out of breath.

The acoustic properties of most auditoriums or convention halls are imperfect. But these defects generally have a physical cause which admits of being guarded against by the adaptation of the speaker's position and tone. Monotony of a low-pitched voice exerts a soporific influence over an audience, which no strength of thought nor beauty of language can wholly counteract; and if there be regularly recurring minor notes, the most startling expressions lose their power. Even to those who do not sleep the sounds bear no sense. The prime object of a speaker should be to make himself understood; and to this end sense should never be sacrificed to sound. A speaker should never use more force than necessary. If requested to speak louder, he should beware of raising the pitch of his voice; by a slight increase of volume on the same key he can make anyone, whose organs of hearing are not defective, hear distinctly. The groundwork of good speaking is the tone of lively conversation.

Vivacity is not force, yet many speakers, to evoke interest, use more force, when the only means of gaining what they seek is increasing animation. Dr. Henry Mandeville gives a distinction of supreme moment between force and vivacity. He says: "We should be careful not to confound force with vivacity. Force is strength, energy; vivacity is life, animation. Force has respect to the hearer, vivacity to the subject. . . . Force, to the verge of vociferation, especially if uniform, may be associated with dullness; vivacity never; and yet there may be great vivacity in speakers who have little force. . . . Force is under the control of the will, and is measured and regulated by the judgment; vivacity depends upon the feelings and their susceptibility of excitement from the progress of discussion. The one is therefore voluntary; the other involuntary. A speaker can command force at any time; but vivacity, if it comes at all, comes without being summoned or solicited. It appears only when the speaker begins to be interested in his subject; and as this penetrates and warms and absorbs him it grows apace independently both of judgment and volition."

The late Mr. Thomas Allen Reed, an eminent English reporter, says: "I have heard speakers laboring hard to make themselves clearly heard by a large audience, but to very little purpose; they have been speaking in their ordinary tone of voice, and straining every nerve after a distinct utterance; but their pitch has been too low. A very little elevation would have made them more audible with much less exertion. I have known speakers with extremely weak voices make themselves well heard in large rooms by simply attending to pitch and clear articulation." A loud voice may be a very indistinct one, sometimes indistinct because of the loudness. The essence of distinctness is a clear, crisp articulation. With some speakers the vowels absolutely drown the consonants, which have thus no opportunity of asserting themselves, and the result is that the hearers have but a vague conception of the words that are uttered. Audibility is not dependent on volume of sound. Many speakers are unintelligible because of loudness of voice. A peculiar effect is often produced after the first few minutes by the very loud speaker, especially if in a monotone. The auditors are delighted to hear his strong, melodious voice, but after listening for a while they become conscious of difficulty, and before he closes have lost interest. The impact upon the tympanum and upon the finer fibers within has dulled sensibility. Some speakers employ but two tones, one a low pitch, and the other a piercing shriek, which they alternate with uniformity now and again, with no regard of sense or length of the intervals. Others allow the voice to fall at the end of sentences, and occasionally on emphatic words. Those who attain high success as speakers must be heard agreeably, and, if possible, their voices should be musical. Under no circumstances should the speaker be content to allow his voice to remain rough, harsh, or grating. Many extemporizers have but one style of delivery. Their tones are the same whether they deliver a business statement, a presentation speech, a congratulatory address at a golden wedding, a witty after-dinner response, or a patriotic oration.

Suggestions for Speakers.—No pains, nor toil, nor time should be spared in careful preparation, in making descriptions of cases graphic and forcible, statements lucid, appeals pathetic, in filling the subject with what will both strike and stick. It is necessary that a doctor shall have a clear conception of his subject in order to instruct and convince. Vivid conception generates power. Let the divisions of subjects be clear and logical. These should be simple, natural, progressive, and thoroughly mastered. If possible, the physician should have facts, points, arguments and illustrations at his tongue's end. There is power in illustration. Let the illustrations be from recent occurrences.

Delivery.—The first duty of a physician in addressing an audience is to make himself heard. If he speaks very rapidly, his hearers will miss words here and there, and he fails to produce the effect intended. He should be full of his subject and im[illegible] ith its [illegible]tance. He should speak deli[illegible] tinctly, and in a natural voice. [illegible] thoughts with clearness and [illegible] should be a sharp, clear summary of established propositions, forced home, perhaps, by an impressive illustration. One of the cardinal virtues of good speaking, therefore, is distinctness of utterance. A speaker may be slow and deliberate, may express himself in exceptional English, and be in all other respects easy to report; but if he has not acquired the art of making himself heard, much of what he says loses its effect.

The real secret of effective delivery lies in the ability of a speaker to impress himself with his subject. He for the time becomes the standard by which all thought and feeling and sentiment of a whole assembly are measured; nor can he hope to produce in his hearers an interest greater than his own. A good speaker, as his mind becomes inflamed with unwonted activity, rises to a plane of thought and feeling of which he himself is altogether incapable in his calmer moments. His conception is sharpened and his thoughts come with a clearness and precision that leave no time for hesitation. The mind, as it were, becomes intoxicated with its own ideas. The perception of the hearer is correspondingly quickened, and the audience, catching the inspiration of the speaker, unconsciously rises with him if animated by the same spirit. Speaker and hearer have become thoroughly *en rapport,* and it may be truly said of a great assembly, "a thousand souls with but a single thought, a thousand hearts that beat as one." Ability to become deeply impressed with the subject under consideration, the power to rise to a sublime conception of it in delivery, and the faculty in a speaker of transmitting his own inspiration to his hearers is the real basis of good, effective speaking. While all physicians can never hope to attain a high type of oratory, still some may be greatly benefited by a better understanding of the principles that underlie good speaking.

One of the facts disclosed by reporting physicians for the last sixteen years is the marked tendency toward greater simplicity of expression. Involved sentences and the use of big words to say little things are not tolerated as they once were. Conciseness and condensation, as elements of style, have largely taken the place of classicism. It is not so much stateliness as incisiveness that is sought. The axiom of the modern speaker appears to be that to talk effectively one must speak tersely. The most pleasing and impressive speakers are those who understand word-history best, and who are most skilled in the nicer refinements of our vocabulary. To feel the force of all there is in their speeches we must partake of the same kind of knowledge, and hence derive the same discriminating instinct.

Diffuseness.—A common error among young physicians, in discussing papers read before medical societies, is a tendency to diffuseness, which may be defined as a copious use of words so arranged as to create the suspicion that a thought is somewhere concealed among them. The youthful physician, and, we regret to say, some of the older members of the profession, in debate, feel it necessary to describe ordinary things in an extraordinary way, and strive to dignify commonplace thoughts by clothing them in fulsome rhetoric. The result is a painful incongruity between the thoughts and their apparel. For instance, a young physician instead of saying that a man was thrown sideways from his carriage, breaking his leg and putting his ankle out of joint, said that "the patient was projected transversely from his vehicle, fracturing the tibia and fibula and luxating the tibiotarsal articulation."[1] Again, another speaker, instead of saying that he had found a large cancer of the liver at a post-mortem examination, said that he had found "a colossal carcinomatous degeneration of the hepatic mechanism." The effect of the use of such large words is usually heightened by an overwrought, stilted delivery as unnatural as it is unnecessary. These faults can be corrected by time and experience. Simplicity is really the thing to be sought. In this connection we are reminded of an excellent story which is told of Dr. Skinner,[2] an eminent theologian. He was unable to use simple words in either preaching or lecturing. One Sunday he was asked to address the Sunday-School class, and consented to do so. He began his address in this wise: "The Westminster Catechism is an admirable syllabus of Christian doctrine." As soon as he had uttered those words, the superintendent intimated that the children could not understand him, whereupon he said: "Your superintendent informs me that you do not understand what I say. Let me explain: Syllabus, my dear children, is synonymous with synopsis."

Rate of Speaking.—The average rate of public speaking is put down in most shorthand text-books at 120 words per minute. This average is too high for the medical profession, whose members deal largely in technical terms. The rate of speaking of some of the greatest orators varies from 100 to 130 words per minute. It is said that John Bright and Gladstone, in beginning their speeches, rarely exceeded 85 words per minute, but as soon as they became interested and deeply absorbed in the subject in hand, their rate of speaking ranged all the way from 85 to 130 words per minute, and during flights of oratory they would reach 150 words per minute for a short time. Bryan, the Democratic candidate for President, in delivering an address to a large audience in this city not long since, spoke so slowly that his speech was taken verbatim by an expert typewriter operator. He did not exceed 82 words per minute. The late Colonel Ingersoll, one of America's greatest orators, spoke at the rate of 130 words per minute, and could keep it up for hours without, apparently, any strain on his voice, which was that of a sustained, animated conversational tone. My estimate of his rate of speaking is based on a lecture which I reported for a local newspaper several years ago. At that time the Colonel spoke for two hours and forty minutes. One of the most rapid speakers in the medical profession I have ever reported was the late Charles T. Parkes, professor of surgery in Rush Medical College. I reported twelve didactic lectures for him on "Fractures and Dislocations." These lectures were delivered without notes. His average rate, during a fifty-minute lecture, was 175 words per minute. Parkes belonged to the jerky, spasmodic type of speakers. Words fell from his lips in volleys, and each volley was usually preceded by a short grunt.

I append a partial tabulated statement, giving the rates of speaking of those physicians whose discussions and lectures I have repeatedly reported from time to time:

Speaker.	Rate of speaking.
Joseph M. Mathews	110 words per minute.
George Ben Johnston.	110 " " "
William E. Quine	115-130 " " "
D. R. Brower	115 " " "
F. W. McRae	115 " " "
Robert T. Morris	120 " " "
W. E. B. Davis	120 " " "

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[1] Edmund Andrews: Introductory Address, JOURNAL, Vol. xxv, Nov. 2, 1895.

[2] James M. Buckley: Extemporaneous Oratory.

Speaker.	Rate of Speaking.
W. W. Keen	125 words per minute.
Rudolph Matas	130 „ „ „
Charles A. L. Reed	130 „ „ „
Arthur D. Bevan	130 „ „ „
T. J. Happel	135 „ „ „
D. A. K. Steele	135 „ „ „
Richard Douglas	140 „ „ „
Nicholas Senn	140 „ „ „
J. Henry Carstens	140 „ „ „
Howard A. Kelly	140 „ „ „
Henry M. Lyman	145 „ „ „
James F. Baldwin	150 „ „ „
J. B. Murphy	150 „ „ „
A. M. Cartledge	160 „ „ „

Only a rough estimate can be given of the speed of any speaker, for the reason that his rate of utterance varies with the nature of the subject, his familiarity with it, etc. Senn, Carstens, Quine, Bevan, Kelly, Keen, and many others vary their rate of speaking very materially, particularly when familiar with the subject under discussion, and pressed for time.

Logorrhea.—Washington Irving says: "Redundancy of language is never found with deep reflection. Verbiage may indicate observation, but not thinking. He who thinks much says but little in proportion to his thoughts. He selects that language which will convey his ideas in the most explicit and direct manner. He tries to compress as much thought as possible into a few words. On the contrary, the man who talks everlastingly and promiscuously, who seems to have an exhaustless magazine of sound, crowds so many words into his thoughts that he always obscures, and very frequently conceals, them.

The free and unrestrained use of words leads to volubility, profuseness and increased rapidity of speech, and increased rapidity of speach leads to inaccuracy of expression, which sometimes renders the efforts of a speaker worthless and unavailing. The reporter in such cases is the protective shield of the speaker, and everything spoken by such men should go through a kind of reportorial refinery before it is published. A lawyer, for instance, has a good case, and has it well prepared. On the trial he examines his witnesses with a string of questions so involved, complicated and illy expressed, and the ideas sought to be conveyed to the jury are so deeply buried and hidden beneath a mountain of needless words, as to bewilder and confuse, and then he wonders why he lost his case. No one is better situated to note the disastrous effects of the inapt and ineffective use of words than the reporter. Pope expressed the matter in a few words when he said:

> Words are like leaves, and where they most abound,
> Much fruit of sense beneath is rarely found.

Long sentences are fatal to clearness and force, however well constructed they may be, and should be studiously avoided.

Precision.—Precision is also of the utmost importance, and can only be attained by a nice discrimination in the use of words. Such words should be chosen as shall express the exact shade and quality of meaning required by the context.

Ambiguity.—Ambiguity is another foe to clearness. The arrangement, as well as the language, should be such that we not only may, but that we *must*, be understood. The first principle of strong oral composition demands the employment of as few words as will clearly express the thought. This rule, carefully followed, will eliminate redundancy, circumlocution, and all kindred evils that weaken the style of many otherwise good speakers.

Analysis and Plan of Delivery.—Much depends upon the analysis of the subject and the plan of delivery. Many physicians, gifted with a certain eloquence of voice and manner, have a faculty of entertaining their auditors with a sort of medley in which neither plan nor purpose is apparent. They may discontinue speaking at any point, and no one would feel its incompleteness, or be in anywise disconcerted. After hearing such a speaker one is conscious of having remembered nothing in particular, and carries away no impression save that of having been pleased. With other physicians the marshaling of sentences and propositions is apparent from the beginning, and the march to a conclusion as concerted and orderly as the advancing columns of an army.

As one of the greatest elements of success in good speaking, may be mentioned carefull and thorough preparation, and a clear idea of the subject to be discussed. No physician can expect to sway his hearers unless he is a perfect master of the subject in hand. In growing earnest, impressive, or in reaching for a climax, it is not necessary for him to rant or roar. Much energy is wasted by professors in lecturing to medical students in this way that might be advantageously saved. To be energetic and eloquent, it is not necessary to declaim boisterously.

Many physicians begin speaking before they know precisely what they mean to say. Others perceive things clearly, and those having this power, though of slow mind, may speak more coherently and fluently than those who, without clearness of thought, possess greater animation. The unlearned and untrained may think as clearly and deeply, within the circle of their powers, as the accomplished; and frequently, on account of freedom from abstraction or distraction produced by a multiplicity of ideas, they penetrate to the heart of a subject, and reason more shrewdly and correctly than do the educated. This is particularly true of country physicians. In discussing ordinary medical and surgical topics, they frequently surpass the average college professor in clearness of thought, command of language, ease and vigor of expression.

Paucity of Language.—Paucity of language is a common defect of extemporaneous speech, and a stenographic report of several speeches delivered by the same person will exhibit this defect in a mortifying manner, when, in response to the requests of those who have heard them, the orator attempts to collect them for publication. It is then difficult for him to believe his vocabulary so meager, the forms of his sentences so similar, that so many phrases often recur, and that there seems to be an irresistible tendency to use the same words, even when other words express the shade of meaning which he endeavors to communicate with greater accuracy than the familiar terms which go so trippingly over his lips. Excess of repetition in the same speech is a serious evil and sufficient to account for the lack of success which attends many who are nobly endowed in voice and figure, and not destitute of a rich and expressive vocabulary.

Oft-Recurring Phrases.—Scattered throughout a reporter's note-book will be found such oft-recurring phrases as, "Permit me to say": "I am [illegible] to declare"; "I am bound to maintain" [illegible] and nobody can deny it"; "I don't [illegible]-tion to this I mean"; "What I to me"; "It appears to me"; "One word more and I have done."

These are a few of many examples of such oft-repeated expressions. The legal and ministerial professions are as guilty as the medical profession in this regard. An old physician once said to me that whenever a man used such phrases during an impromptu speech he was "simply sparring for thought, and as filling material they came in nicely, but should never appear in print."

Reporters Sometimes Unjustly Assailed for Inaccurate Reports.—Occasionally a physician will severely and unjustly denounce a report of a lecture or discussion as inaccurate without stopping to think of the causes which lead to it. Inaccurate reports may be largely attributed to:

1. Noises in the room or hall in which the reporter is taking notes.
2. Indistinct utterance or imperfect enunciation on the part of the speaker himself.
3. A conversation being carried on near the reporter's table between two members, while some one is addressing the society.
4. The speaker dropping his voice at the end of sentences, the final words being inaudible or doubtfully heard.
5. Extreme hoarseness on part of the speaker.
6. Too great a distance between reporter and speaker, particularly when the latter has a voice of feeble carrying power.
7. Stifling of the speaker's voice by the noise of a car heard through open windows.
8. Sneezing or coughing during debate.
9. The slamming of doors.
10. Noises from the street during hot weather, when the windows of the hall in which a meeting is being held are open.
11. Clearing of the throat on the part of some person while another is speaking.
12. Partial, but temporary, deafness on part of the reporter induced by a cold.
13. A change in the physical and mental condition of the reporter, induced by a long siege of note-taking, the mind acting sluggishly and the muscles protestingly.
14. The speaker turning his back toward the reporter.

Physicians and Lawyers Compared.—The art of speaking well is not confined to statesmen, jurists, and clergymen. The medical profession, like the ministerial and legal professions, has orators within its ranks. The experienced doctor strives to use the simplest and most expressive words. According to Bryce, rhetorical excellence consists in: "1. The power of finding good ideas and weaving effective arguments. 2. Skill and taste in the choice of appropriate words. 3. Readiness in producing appropriate ideas and words at short notice. 4. Weight, animation, and grace in delivery."

I have had the pleasure of reporting the utterances of several eminent lawyers from time to time, and, to speak candidly, I must confess that they were not the superiors in any sense of many of the physicians whose impromptu speeches I have reported. I shall mention three striking examples of the extemporaneous type of speakers in the medical profession, and later submit a classification.

Dr. Nicholas Senn is a fluent, forcible and impressive speaker. He has an excellent command of language. There is a richness in his diction, a copiousness, ease, and variety in his expression which are rarely surpassed by the best extemporaneous speakers. The arrangement of his sentences in debate seems never to have been studied, yet every word falls into its proper place. He displays his ability as a debater to best advantage when under a heavy fire. On one occasion, during a spirited discussion, which was called forth by a paper which he had read, he sat with a smile on his face, listening attentively to everything that was being said, while several prominent surgeons were severely criticising the operation he had proposed; but when the time came to reply to the various criticisms that had been showered upon him, in an unassuming way he scored his opponents one after the other in a dignified but merciless manner, and showed with great clearness of statement how feeble and groundless were some of the views that had been advanced.

Dr. Charles A. L. Reed, of Cincinnati, Ohio, the President of the American Medical Association, is a splendid example of the extemporaneous speaker. As a debater he is well equipped. He is known for his elegant diction, his scholarly references, and the ornateness of his phraseology. His well-rounded sentences are marvels of construction. No matter how sudden the summons, or what the subject, a speech from him is always interesting. His rhetoric is faultless; his delivery graceful and easy.

Dr. Joseph M. Mathews, of Louisville, Ky., is an easy, graceful, fascinating, polished speaker. His style is notable for its simplicity. He can adorn any subject. Those who have had the pleasure of hearing his celebrated lecture on "The Lights and Shadows of a Doctor's Life," will recall with what eloquence, pathos, and flashes of humor he treated this subject. One minute his hearers were on the verge of shedding tears, the next convulsed with laughter, so easily and tenderly did he touch the chords of the human heart.

As examples of good extemporaneous speakers in the medical profession, men who make themselves heard, who know and feel what they say, and who can command the undivided attention of any audience, I may mention Drs. W. W. Keen, William E. Quine. G. Frank Lydston, Harold N. Moyer, J. Henry Carstens, James B. Herrick, Weller Van Hook, Arthur D. Bevan, D. R. Brower, A. M. Cartledge, J. B. Murphy, Henry M. Lyman, William A. Evans, F. W. McRae, L. S. McMurtry, Dudley S. Reynolds, W. E. B. Davis, Rudolph Matas, T. J. Happel, Richard Douglas, George Ben Johnston, Lawson Tait, Joseph Eastman, Sir Thomas Grainger Stewart, William Macewen, and a host of others did space permit.

Classification of Speakers.—The reporter is constantly listening to speakers, good, bad and indifferent, and soon comes to recognize the qualities that cause a man to rank in one or other of those classes. He is essentially a speech-taster. It is a significant fact that speeches delivered in a quiet, deliberate way, when the speaker has a good command of sound English, and has something to say that is worth hearing, nearly always give the reader the idea that they must have been delivered with great fluency. On the other hand, the really fluent speeches, those with long sentences, each sentence containing several clauses, and sometimes one or more parentheses, give the reader of them the idea of hesitation and lack of preparation. A study of the different styles of doctors as speakers encountered during an extensive and varied reportorial experience is an education in itself, and by virtue of his vocation the reporter is compelled to study them. As there is no one more competent to criticise physicians as speakers than the man on whom devolves the duty of reporting them, I have made an attempt to classify the speakers whose utterances I have reported from time to time in medical societies. We have the following classes:

1. The moderately slow speaker.
2. The exuberant and tempestuous speaker.
3. The musical, flowery speaker.
4. The loud, husky speaker, whose voice is somewhat indistinct.
5. The grandiloquent speaker.
6. The rapid and spasmodic speaker.
7. The excessively rapid speaker.
8. The rapid, involved and indistinct speaker.
9. The one who hurls disconnected sentences at the reporter.
10. The clear, distinct, unassuming speaker, who talks with absolute precision, with perfect grammar. He is a *rara avis*.
11. The physician who commences his speech in a deliberate, measured, distinct, far-reaching tone of voice, and who, when he becomes influenced by the magnetism of his audience and their rapt attention, gives vent to rare flights of oratory.
12. The irrepressible speaker, who does not know enough to sit down while he is down, but who monopolizes the precious time of an important convention in saying practically nothing; still, his remarks are reported, transcribed, and then, perhaps, liberally blue-penciled, or consigned by the secretary of the association or editor to the waste-basket.
13. The one who jumbles up his nominative, his accusative and his verb with such picturesque incoherence that it is almost impossible to make head or tail of what he means.
14. The physician who threads his way through a long and apparently intricate sentence, never losing the connection of the parts, and coming out at the end with absolute precision.
15. The man who does not realize that his first duty is to make himself heard.
16. The physician who never completes his sentences, but is utterly oblivious of that fact when he criticizes the report of his speech.
17. The physician who misquotes, and then blames the reporter if he has not supplied the correct quotation.
18. The foreigner, who imagines that he speaks like a native.
19. The speaker who drops his voice at the end of sentences.
20. The low, mumbling, conversational style of speaker, who indulges in a free and rapid flow of words which taxes the reporter's skill and dexterity.
21. The physician who is extremely subtle in the use of words and phrases. The shades of meaning are so delicate by the judicious selection of them that the reporter must retain the original force and color of each sentence.
22. The physician who habitually clothes his hazy ideas in loose, disjointed talk, which, if transcribed as uttered, would mar, if not ruin, his reputation.
23. The one with a slow and fatiguing mode of utterance, whose sentences are diffuse, intricate and deficient both in eloquence and precision.
24. The physician who is clear, forcible, persuasive, with an eloquence natural and direct. (This type of speaker usually spends much time in meditation and in the composition of his speeches.)
25. The physician whose speeches are notable for their subtlety of discrimination and depth of learning.
26. The physician who evolves original thoughts and whose voice and gesture emphasize living truths.
27. The eccentric physician who stifles and distorts natural eloquence. His introductory is long; divisions and subdivisions of speech are perhaps illustrated by a pointless story.
28. The physician who carefuly selects his words and utters sentences that are models of syntax.
29. The man whose style is natural, easy and varied, with short clauses expressing vivid ideas.
30. The tautological physician.
31. The vivid, brilliant speaker who pours out a torrent of words, dexterously handled, and whose remarks are full of sudden turns and surprises, but are illumined by ingenious reasonings.
32. The man with a strange and unfamiliar style, whose sentences are portentously long.
33. The rapid and monotonous speaker who becomes tangled in his own sentences, and mispronounces words.
34. The physician who is known for his elegant diction, his scholarly references, and the ornateness of his phraseology.
35. The physician who stutters, speaks indistinctly, and yet is extremely technical.
36. The pompous speaker.
37. The physician who begins a sentence, but is not satisfied with its construction; he therefore draws up, makes a plunge in another direction, wanders about in a maze, and finally lands in a region of impenetrable obscurity.
38. The physician who is afflicted with that terrible malady—*cacoethes loquendi.*

The two qualities in a speaker which most delight reporter and hearers are lucidity of thought and distinct utterance. Purity of tone, clearness of enunciation, and deliberate utterance are what make public speakers heard and interesting.

THE IDENTIFICATION OF DEXTROSE IN HUMAN URINE.*

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NEW YORK CITY.

(Concluded from page 683.)

Repeated filtration of the urine through animal charcoal causes retention by the latter of uric acid, urates, coloring substances, some albumin, but also of certain amounts of dextrose. Powdered animal charcoal, freed from impurities as well as possible by washing and by extraction with hydrogen chlorid, is put to the height of 3 cm. into a filter measuring 5 to 6 cm. in diameter. Twenty to 40 cm. of urine are repeatedly filtered through this layer, until the filtrate is rendered perfectly colorless. As particles of dextrose are retained by the charcoal, this should be washed three times with distilled water, and each of the three washings is examined separately. Fehling's test is then applied to the filtered urine and the washings. The advantage obtained by this procedure is obvious, still decolorized urine may yet possess reducing factors.[9] It was found that, notwithstanding the absence of dextrose, the test occasionally reacted positively, and that, on the other hand, dextrose, which was positively recognized by other processes, could not be detected when repeated filtration through animal charcoal had taken place. The modification of Worm-Müller is a decided improvement on the older copper tests. It does not, however, eliminate the afore-mentioned disturbing factors, but their occurrence is not so formidable. This method depends on the fact that at a temperature below 70 C., reducing substances other than dextrose either do not react at all with the Fehling's solution, or only to a diminished degree. The reagent is prepared by dissolving 10 grams of potassium and sodium tartrate in a 4 per cent. solution of sodium hydroxid, or in a 5.6 per cent. solution of potassium hydroxid; 2.5 cm. of this solution, together with 1 c.c. of a 2.5 per cent. solution of copper sulphate, are heated not quite to the boiling-point. Five c.c. of the suspected, previously filtered, albumin-free rendered urine is heated to the same degree and at the same time. Twenty to twenty-five seconds are allowed to elapse for cooling, after which the urine in small portions is carefully put into the test-tube containing the reagent. The bluish-green color of the latter rapidly disappears if glucose is present; yellow-red cuprous oxid is separated, and together with xanthin bases and uric acid, is kept suspended in the mixture for a long time. The cuprous oxid is readily recognized by holding the well-illuminated tube against a dark background. If no cuprous oxid is separated within five or ten minutes the test should be repeated with 1.5 c.c. of the solution of copper sulphate; then, if still negative, 0.5 c.c. more of the copper solution—that is, 2 c.c.—are used. The testing, if the cuprous oxid has not separated in the meantime, is continued, and for each successive application 0.5 c.c. more of the copper solution is added, until 4.5 c.c. are utilized for one test.

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*Read at the Sixteenth Annual Meeting of the Fifth District Branch of the New York State Medical Association, held in Brooklyn, May 22, 1900.

Phosphates, the presence of which may give rise to wrong interpretations, unlike cuprous oxid, are thrown down in short order. All the other copper tests, Salkowski's, Fehling's, Haines', Pavy's and Elliott's, are nothing more than modifications of the original copper test—Trommer's; they are affected by the very same disturbing factors, and are consequently liable to kindred erroneous interpretations. Haines' and Elliott's methods, however, possess the advantage over the other modifications that only very small amounts of urine are needed. Eight drops of urine, and never more, are utilized in performing one of these tests, which, therefore, lack somewhat in sensitiveness. On the other hand, by the utilization of only small amounts of urine, a possible pseudo-reduction by a non-saccharin reducing agent is excluded to some extent, as but eight drops of urine, even if in a somewhat higher degree of concentration, do not contain sufficient quantities of reducing substances other than dextrose to effect a pseudo-reduction.

THE PHENYLHYDRAZIN TEST.

This test depends upon the quality characteristic of phenylhydrazin to form compounds—osazones—with different varieties of sugar. The union with grape-sugar—phenylglucosazone ($C_{18}H_{22}N_4O_4$)—occurs in yellow needle-shaped crystals, which must be detected by the aid of the microscope. Jaksch, Jolles, Ultzmann and Havelburg devised different methods for the execution of these tests. Havelburg's modification, which is a much more convenient process than the original mode of application, is yet not mentioned by the standard works. In my "Recent Studies in Urinology," N. Y., 1898, I gave the following directions for the application of Havelburg's modification: "Put in a test-tube 1.2 grams phenylhydrazin hydrochlorate and 1.8 grams sodium acetate; add 10 c.c. of distilled warm water. Warm a little and add 10 c.c. of the suspected, previously filtered, urine and from eight to fifteen drops of chloroform. Shake well and set aside. The chloroform will soon fall to the bottom, and, if sugar is present in the urine, a fluid layer will be produced above it in which the phenylglucosazone crystals are contained. Remove part of the fluid layer by means of a pipette and examine it on a slide under the microscope for crystals of phenylglucosazone."

Tolles recommends the following modification: To 10 c.c. of albumin-freed urine of normal consistency (of concentrated urine 5 c.c. are utilized and diluted with an equal volume of water), 0.5 grams phenylhydrazin hydrochlorate and 1 gram of sodium acetate are added. The mixture, while warmed for an hour or longer on a water bath, is repeatedly agitated; after cooling, a small amount of the yellowish deposit is examined under the microscope for phenylglucosazone.

Notes.—The phenylhydrazin test, formerly considered the most sensitive and trustworthy method for the detection of urinary glucose, in point of accuracy, has been decidedly overrated, for normal urine treated with phenylhydrazin may occasionally furnish crystals, which in appearance do not at all differ from those of phenylglucosazone. A certain individual's urine, which I had occasion to examine more than thirty times, and which in every instance proved to be absolutely normal, when subjected to the phenylhydrazin test, always furnished crystals seemingly identical with those of phenylglucosazone. Glucose, however, and glycuronic acid combinations were positively not contained in the urine. On the other hand, the phenylhydrazin test may at times not respond when the presence of sugar has been proved beyond a doubt by other methods. Shape and arrangement of the crystals are apparently of no significance regarding the nature of the osazone constituents. In order to render the phenylhydrazin test conclusive, the true nature of the crystals has to be ascertained. This is accomplished by a determination of their melting-point. Other urinary constituents besides glucose combine with phenylhydrazin to form either insoluble, or, with difficulty, soluble, compounds. With the pentoses, pentosazone; with acetone, acetonhydrazon, $(CH_3)_2C{:}N.NH.C_6H_5$, are furnished. Glycuronic acid, which never occurs in the free state in the urine, combines with phenylhydrazin; so does oxalic acid; carbamid in concentrated urine of the dog also enters into a union with phenylhydrazin.

Disturbing factors and sources of error.—Glycuronic acid combinations, fructose, pentoses. While in all probability glycuronic acid as such is never found united with the phenyl salt in human urine, some of its glycosidal combinations undoubtedly form osazones. In appearance and solubility the phenylosazone crystals of glycuronic acid or its combinations are analogous to the crystals of phenylglucosazone. Glycuronic-acid phenylosazone is distinguished from phenylglucosazone by its melting-point. The former melts at 114 to 115

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[9] Robert Saundby (Brit. Med. Jour., April 14, 1900) is still of the opinion that all of the reducing agents except sugar are removed by this process. Decolorization of normal urines, however, is by no means identical with the separation of all possible reducing substances.

C., phenylglucosazone at 204 to 205 C. and in its impure state at 173 to 194 C. The osazones of the various sugars possess specific characteristics as to form, melting-point, solubility and optical behavior. The osazone of fructose, however, is identical with glucosazone. Fructosazone forms somewhat more rapidly than glucosazone, which fact seems to be due to the quicker decomposition of levulose. Pentosazone differs from glucosazone in its melting-point, which is at 159 to 160 C. Lactosazone melts at 200 C.

MOORE-HELLER'S TEST.

Moore-Heller's test depends upon the decomposition which dextrose undergoes when it is boiled with sodium or potassium hydroxid. To the urine contained in a test-tube one-third of its volume of sodium or potassium hydroxid solution is added, after which the mixture is boiled. If sugar is contained in the urine a brownish coloration will presently ensue. The change in color is more readily noticed if only the surface part of the mixture is heated. The brown color becomes more intense if the boiling is continued for one or two minutes, provided the percentage of glucose is above 0.5. The alteration in color is due to the production of glucic and melassic acids. On addition of a little nitric acid the brown color disappears, and the odor of caramel or of formic acid is evolved.

Notes.—The precipitate separating from the urine after the latter has been rendered alkaline, and which increases after the mixture has been subjected to heat, is of no moment, as far as the reaction is concerned, as it is composed of earthy phosphates; it is better to separate them by filtration before the mixture is boiled. As normal urine, when subjected to heat, will also assume a slight degree of brownness, the darkening must be well pronounced if sugar is contained in the examined specimen. Urines containing carbonate of ammonium must be repeatedly boiled with an excess of the alkaline hydrate before results can be obtained.

Disturbing factors and sources of error.—Impure alkaline solutions, mucin, proteids, biliary pigments, alkaptonic acids. The reagents should be chemically pure and should be kept in green-glass bottles. Urine rich in mucin, when boiled with NaOH or KOH, darkens to about the same degree as does a urine containing a small percentage of glucose. Mucin and proteids are previously separated by boiling and filtering. Biliary pigments occurring in urine call forth a brown coloration of the latter on the addition of NaOH and KOH without the employment of heat. They are removable to some extent by filtering the urine through animal charcoal. Urine exposed to the air and containing alkaptonic acids, when treated with NaOH or KOH, assumes a dark-brown color. However, I have noticed the gradual appearance of the dark coloration in urines containing alkaptonic acids which were simply left exposed to the air when no caustic alkalies had previously been added.

PENZOLDT-RUBNER TEST.

Equal parts of urine and of a concentrated solution of normal plumbic acetate, $Pb(C_2H_3O_2)_2 + 3H_2O$, are added together, and the resulting precipitate is filtered off. To the filtrate, ammonia is added, drop by drop, until a heavy white deposit of lead saccharate is formed. On the application of heat the precipitate turns to a flesh color or to a darker shade of red. If the heat applied does not exceed 80 C., the red coloration is indicative of glucose only, and not of lactose.

Notes.—Urines of a higher specific gravity than 1010 should be diluted before the test is applied, which is spoiled by an excess of ammonia. Voit and Moritz devised modifications of this test, which, however, do not seem to possess any special advantages. I have used the following modifications for the past ten years with uniformly good results. I cite from my "Recent Studies in Urinology," page 33: "Take from 1 to 5 c.c. of urine and put to it an equal amount of ammonia hydroxid; add about 5 drops of a strong solution of lead acetate. A whitish, flocculent sediment composed of sulphate, phosphate and chlorid of lead and hydrated lead oxid, $PbO(OH)_2$ appears immediately. Heat gently a part of the sediment over an alcohol lamp until two or three bubbles ascend. If glucose is present there will appear in the heated region of the sediment a well-defined, distinct pink spot, the intensity of which is dependent on the amount of dextrose present." I have found that when glucose occurred in as small an amount as 0.1 per cent., the pinkish spot was plainly noticeable. If glucose is present in smaller quantities than 0.1 per cent., the spot on the heated portion of the sediment will appear yellowish. This spot, on account of the coloration of the urine, is not always noticeable. It is best to use test-tubes of the smallest caliber only, when applying this test, and I advise the use of new tubes—previously well cleaned with distilled water—if urine containing but small amounts of dextrose is to be scrutinized. Albumin, uric acid, creatinin, pigments and the alkaptonic acids do not influence the reaction.

Disturbing factors and sources of error.—When the test is properly executed apparently no source of error arises. It is possible, however, that certain glycuronic-acid combinations may call forth a similar circumscribed coloration in the precipitate. Indoxyl-sulphonic acid is present in the precipitate, and may, under certain conditions, give rise to a discoloration.

THE METHYLENE BLUE TEST.

Frœlich[10] employs the following procedure (Stern, Recent Studies in Urinology): "To 10 c.c. of the urine to be examined add about 5 c.c. of a concentrated solution of sugar of lead (neutral plumbic acetate), shake well and add 5 c.c. of a concentrated solution of lead acetate (basic lead acetate). Put on a dry, open filter. The filtrate will be almost always of a water-like, colorless, sometimes slightly yellowish, appearance. Place into a test-tube some of the filtrate; into another test-tube put an equal volume of a concentrated aqueous solution of methylene blue (1 gram of the purest methylene blue in 300 parts of water). Render the methylene-blue solution strongly alkaline by the addition of potassium hydrate (to 5 c.c. of the methylene-blue solution add about 1 c.c. of a 10 per cent. solution of KOH). Warm the alkaline solution of methylene blue over an alcohol lamp and add to it the filtrate contained in the other test-tube and heat again to the boiling-point. If dextrose be contained in the urine, the bluish-black mixture will turn lighter, become whitish, and finally clear and transparent, with a faint tinge of yellow. The reaction is not disturbed by the excess of lead, which is thrown down as a white deposit. Frœlich employed in every instance 5 c.c. of the filtrate, and 5 c.c. of the solution of methylene blue, with the addition of 1 c.c. of KOH solution to the latter; however, a few drops of the filtrates of urines abundant with glucose are sufficient to decolorize 5 c.c. of the solution of methylene blue. When the percentage of dextrose is small, less than 2 per cent. the equal volume of the filtrate must be added. The discoloration of the mixture occurs most always within twenty to twenty-five seconds after the removal of the tube from the lamp. The tube should be kept as quiet as possible, as even a slight shaking may result in a bluish coloration of the upper layers by the oxygen of the atmosphere. The decolorized mixture will again turn bluish on shaking, which will, however, disappear upon standing. The limit of sensitiveness of this test Frœlich maintains to be between 0.4 and 0.5 per cent. glucose. With a percentage of less than 1 per cent., the reaction will occur somewhat slower. Every urine may decolorize methylene blue. Urea, uric acid, chlorid of sodium and albumin do not reduce methylene blue in an alkaline solution. Creatin and creatinin, according to Frœlich, will not reduce the same; neither will the biliary pigments, which, however, will turn the solution to a green color. Those urinary constituents, which, besides glucose, may decolorize methylene blue—pigments and glycuronic acid and its compounds—are thrown down by the lead solutions, and, therefore, do not disturb the test.

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[10] Centralblatt f. innere Med., Jan. 20, 1899.

Disturbing factors and sources of error.—Levulose, creatinin may reduce methylene blue in an alkaline solution, also creatin on boiling for a longer period. Normal urine, as I have repeatedly noticed, will also cause a reduction of the reagent. Normal urine possesses the reducing qualities of a 0.1 per cent. solution of glucose.

THE PICRIC ACID TEST.

A solution of grape-sugar on being heated with an equal bulk of saturated watery solution of picric acid and some potassium or sodium hydroxid will assume a beautiful dark-cherry coloration. The alteration in color is caused by the production of picramic acid. The presence of albumin does not interfere with this test.

Disturbing factors and sources of error.—Uric acid, creatin, creatinin, acetone, pigments, glycuronic acid combinations. Urine free from glucose to which this process has been applied undergoes a similar, but slighter, coloration. The power of reducing picric acid is possessed by normal urine to the same degree as by a 0.1 per cent. solution of dextrose.

THE TEST WITH SODIUM-SULPHO-INDIGOTATE.

$C_{16}H_8N_2O_2(SO_3Na)_2$.

Take a solution of indigotin—disulphonic acid—$C_{16}H_8(HSO_3)_2N_2O_2$—saturated with sodium carbonate, on being boiled with a solution of dextrose turns green, purple, red and yellow. The mixture resumes its original blue coloration on shaking the still warm yellow solution, when the order of appearance of the colors is reversed—yellow, red, purple, green and blue. Care should be exercised in avoiding agitation of the tube during heating.

Disturbing factors and sources of error.—Pepton, glycuronic acid compounds, inosit, lactose, gallic and tannic acids, salicylic acid, salol, salicylates.

THE TEST WITH ORTHONITROPHENYLPROPIOLIC ACID

$C_6H_4(NO_2)C{:}C.COOH$

G. Hoppe-Seyler's test: Orthonitrophenylpropiolic acid, on being boiled with glucose and sodium carbonate, furnishes indigo; excess of sugar causes a reduction of indigo-blue to indigogen (indigo-white) $C_{16}H_{12}N_2O_2$. The test is applied as follows: To 5 c.c. of the reagent—0.5 per cent. of the solution of orthonitrophenylpropiolic acid in caustic soda and water—10 drops of the suspected urine are added, after which the mixture is boiled from fifteen to thirty seconds. If the solution turns dark blue—indigo reducing agents—at least 0.5 per cent. sugar are present.

Notes.—The test should be applied only with an excess of the reagent. Normal urine causes a green coloration after at least 1 c.c. has been added. A pronounced blue coloration with normal urine occurs but rarely. Albumin does not interfere with the test.

Disturbing factors and sources of error.—Lactose, indoxyl, and indoxylic acid cause the same reaction; creatin in excess calls forth a green coloration.

THE TEST WITH PARADIAZOBENZOLSULPHONIC ACID.

Penzoldt's test: If to a solution of sugar rendered alkaline with fixed alkali, paradiazobenzolsulphonic acid —$C_6H_4N_2SO_3$—is added, a red coloration turning gradually to violet will ensue within ten or fifteen minutes. When properly diluted the mixture may then show an absorption band between D and F and another one at G.

Notes.—Penzoldt uses the reagent in a dilution of 1 to 60 parts of water. The reagent should be kept under chloroform to prevent its explosion.

Disturbing factors and sources of error.—Albumins react with the reagent; like sugar; acetone; phenol and brenzcatechin.

THE FURFUROL TESTS.

The decomposition of the carbohydrates by sulphuric acid occurs under the production of furfurol. This is detected, even if it is present but in traces, by the color of the combination which it forms with certain chemicals. Dextrose furnishes furfurol reactions with alphanaphthol, thymol, xylidin, and under certain conditions also with resorcin.

The reaction with alphanaphthol: If 1 c.c. concentrated sulphuric acid is allowed to run beneath 0.5 c.c. of a diluted sugar solution containing one drop of a 15 per cent. alphanaphthol solution, there appears at first on the line of contact of the two fluids a greenish coloration, which, however, does not pertain to the reaction, and afterward above the latter a ring of dark violet. If the contents are now shaken together the mixture assumes a carmin-red coloration with a bluish hue. Spectroscopically a narrow band between D and E, disappearing afterward, and darkening, beginning at F and extending to the violet end, is noticed.

Notes.—The urine should be rendered free of albumin. The green coloration at the point of contact of the two solutions is caused by nitric or nitrous acid contained in the sulphuric acid. The reagents should be chemically pure and the test-tubes should be boiled in distilled water and thoroughly cleansed before the test is applied. The colorations are best seen in strong light before a white background — sheet of unruled white paper. Carbamid, uric acid, creatinin, xanthin, allantoin, phenol and hippuric acid do not interfere with the test.

Disturbing factors and sources of error.—Other carbohydrates, glycosides, serum albumin, peptone, some unknown urinary constituents.

The reaction with thymol: Two drops of a 15 to 20 per cent. alcoholic solution of thymol are mixed with 1 c.c. of the suspected urine, after which concentrated sulphuric acid is added. On shaking, a vermilion-, or rubin- or carmin-red color of the mixture ensues.

Note.—Thymol is not very well adapted for the detection of the carbohydrates in urine as the color reaction may not be distinguishable from the coloration which urine attains with sulphuric acid alone.

Disturbing factors and sources of error.—The same as with alphanaphthol.

The reaction with xylidin: Strips of paper are dipped in a mixture composed of equal volumes of xylidin and glacial acetic acid to which some alcohol has been added. After the papers have been completely dried they are exposed to the vapors of furfurol—the urine having been warmed previously with strong sulphuric acid. Furfurol turns the papers red.

Disturbing factors and sources of error.—About the same as with alphanaphthol.

HORSLEY-PRATESI'S TEST.

This test depends upon the reduction of potassium bichromate by the products of sugar decomposition. Potassium hydrate 2.5 grams are dissolved in 60 grams of a very strong solution of potassium silicate—waterglass solution—to which 2 grams of potassium bichromate is then added. The solution must be kept in a tightly stoppered bottle. A small sheet of tin is cut into strips, each measuring about 7 cm. in length and 1 cm. in width. A drop of the reagent is placed with a glass rod on the end of one of the strips of tin and there dried by holding it over a small flame. Four more drops of the reagent are allowed to evaporate on the same spot. When the dried reagent on one of these prepared strips is heated it swells up and assumes a distinctly yellow color. When testing for glucose, the suspected urine, drop by drop, is allowed to come in contact with the reagent heated; heat being applied after each additional drop of urine, to facilitate evaporation. A green coloration makes its appearance when sugar is present in the proportion of 0.5 per cent. and over.

Disturbing factors and sources of error.—Albumins, glycuronic-acid combinations, pigmentary bodies.

THE FERMENTATION TEST.

This is one of the most reliable tests for the detection of urinary glucose provided the latter occurs in quantities above 0.5 per cent. Certain vegetable organisms by their vitality call forth disintegration of grape-sugar. The products of decomposition vary according to the species of organism present. Beer-yeast breaks up the sugar molecule into carbon dioxid, and alcohol in neutral or faintly acid solutions. In the main the fermentation occurs thus: $C_6H_{12}O_6=2C_2H_6O+2CO_2$. Lactic acid yeast converts glucose into lactic acid; lactic fermentation may take place in diabetic urine if ammonium carbonate has replaced the latter's carbamid. Butyric acid yeast converts sugar into butyric acid. Mycoderma aceti causes conversion of dextrose into an acid identical with glucinic acid. Kefyr produces fermentative changes of glucose. A number of other specific micro-organisms cause specific fermentations. The fermentation test for urinary glucose is made with fresh beer-yeast, or with dried German yeast, a combination of beer-yeast and dry starch, at a constant temperature of 33 to 35 C. For qualitative testing the fermentation tubes devised by Fritz Moritz[11] suffice. The determination of dextrose by collecting and measuring the carbon dioxid evolved during the process of fermentation may be approximately done with Einhorn's or Fiebig's saccharometers. The method of determining the amount of glucose by the evolved carbon dioxid must always remain inexact, as the yeast *per se*, no matter what precautions are taken, furnishes small amounts of alcohol and carbonic acid gas. Einhorn's apparatus presents a further disadvantage in its open bulb, which permits the escape of considerable quantities of carbon diozid. The detection and determination of glucose by Robert's method—by ascertaining the density of urine before and after fermentation and by calculating the urine's contents of sugar by the loss of specific gravity during fermentation—is by far the most practical and trustworthy means in the hands of the general practitioner. Lohenstein and Stern have devised apparatus for the more practical and convenient application of this method. Stern's apparatus, moreover, may be utilized for the *detection* of glucose only, by interrupting the fermentation after an hour or so and by ascertaining any decline in the specific gravity of the dextrose solution.

Disturbing factors and sources of error.—Maltose, fructose, and similar carbohydrates ferment with commercial yeast. The process, however, is a much slower one. It happens occasionally that a urine containing glucose is not fermentable. This is due to anti-fermentative agents, as salicylic acid, salol, arbutin, extractum myrtilli, etc., after their internal administration.

Polarization.—The value of polariscopy for the detection of urinary dextrose is dependent upon the sensitiveness of the instrument used. Diabetic urine is dextrarotatory. If the urine is light shaded and transparent the examination may be made without further manipulations; if, on the other hand, it contains proteid material and pigmentary substances in excess, they should be first eliminated. A 10 per cent. basic lead acetate solution and repeated filtration is used for this purpose.

Disturbing factors and sources of error.—Not every rotation of polarized light toward the right is due to the presence of glucose, as other dextro-rotatory constituents may occur in the urine. Pronounced rotation to the right, however, is conclusive evidence of the occurrence of dextrose. Maltose, lactose, dextrin, and glycuronic acid turn the polarized ray to the right. The urine may also be dextro-rotatory after the ingestion of certain drugs, especially alkaloids or glucosids; morphin has been found to be optically active in this manner. Dextro-rotation due to urinary glucose may be averted or neutralized by simultaneous occurring levorotatory substances, as proteid bodies, levulose, beta oxybutyric acid, cystin, and some medicinal agents.

SUMMARY.

The brief discourse upon the nature and value of the most frequently applied tests for the detection of urinary glucose divulges the important fact that there is not a single method which is entirely free from possible sources of error. Some of the processes for the recognition of grape sugar in human urine, it is true, possess considerable value and are relatively trustworthy; perfection, however, is not found in any. Absolute reliance can therefore not, and should not, be placed on any single test. Among the numerous methods in vogue, three especially are of considerable value, namely, Nylander's, Penzoldt-Rubner's and the fermentation tests. The great value of Nylander's modification of the bismuth test is virtually but an indirect one—*the nonreduction of the bismuth salt being positive evidence of the absence of pathologic amounts of dextrose.*

Penzoldt-Rubner's ammonia-lead acetate reaction is
the most brilliant and reliable process at the command
of the physician, the ferment [illegible] on test [illegible] g a close
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tages the Penzoldt-Rub [illegible] the
mentation process, viz., [illegible] ilts

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[11] Münchener Med. Wochenschrift, 1891, Nos. 1 and 2.

its limit of reliability is more extended. Although a single testing method *per se* can never furnish positive proof of the presence of urinary glucose, especially when this occurs in amounts less than .5 per cent., a number of judiciously selected control tests cautiously applied may complete the identification.

For the positive recognition of dextrose in human urine—in routine work—I proceed in the following manner: About 15 c.c. of the freshly voided, non-ammoniacal urine is boiled and filtered. To a portion of the filtrate Nylander's test is applied. If, after prolonged boiling the precipitate retains its white color, I stop with the testing there and then, as no pathologic quantities of grape sugar are contained in the urinary fluid. If, however, the bismuthic salt has undergone even a slight reduction, another portion of the filtrate is subjected to the modification of the Penzoldt-Rubner process described in the foregoing. In case the careful and repeated application of this test yields but negative results, it may be concluded that the urine is free from dextrose. On the other hand, if a pinkish spot has appeared on the heated region of the sediment, indicating the presence of either glucose or of a glycuronic-acid compound, a fresh portion of the urine is boiled, filtered, and subjected to the fermentation test in the urinoglucometer. If after the apparatus has been placed for a few hours under the proper temperature, the urine does not show a reduced density, either no glucose at all or in amounts less than .5 per cent. or anti-fermentative agents are contained in it. A loss in specific gravity taking place soon after subjecting the urine to fermentation points with certainty to the occurrence of grape sugar in quantities above .5 per cent.

The urine, it is needless to say, must be in all instances a sample of the 24-hours product and the patient during the day of its collection and the 24 hours preceding it should not be under the influence of any medicinal substances.

In case the fermentation process, on account of its limitations, does not confirm the results obtained by the Penzoldt-Rubner test, in order to positively identify the dextrose I proceed at once to separate it from the urine. The isolation of glucose from the urine is accomplished by first condensing the same to the consistency of a thin syrup, after which about half its volume of ether is added. The mixture is then allowed to evaporate. At the end of a few days or a week all the syrup has crystallized. The granular mass is now treated with a small amount of alcohol to effect the removal of carbamid and extractive matters. Following this the residue is dissolved in boiling alcohol, the solution filtered while hot and the filtrate permitted to crystallize. The separated cystals are then repeatedly subjected to crystallization from alcohol, or preferably, methyl alcohol. Dextrose thus obtained is anhydrous, colorous, and forms four-sided transparent prisms; the crystals are closely grouped in little white, nodular masses, are hard, become less transparent and liquefy when exposed to moist air, melt at 144 to 146 C., and do not readily dissolve in water. In cold alcohol the crystals dissolve with difficulty, but are readily soluble in boiling alcohol. They dissolve slowly but in large amounts in methyl alcohol and are insoluble in ether. When carefully applied and with sufficient amounts of suspected fluid, this process may yield positive results even with normal urines. Insignificant quantities of dextrose crystals are, however, of no pathognomonic value.

If somewhat quicker results are desired, than with the confirmatory process just mentioned, I try to isolate the dextrose from the urine in the form of lead saccharate, $(PbO)_3 (C_6H_{12}O_6)_2$. This method, however, is inferior to direct crystallization, as from 33 to 50 per cent. of the sugar is lost in the course of the process and as the deposit also contains urinary constituents other than glucose; principally indoxyl sulphonic acid.

Plumbic saccharate is best obtained from the urine in the following manner: An excess of saturated (by heat) solution of lead chlorid is added to 250 c.c. of fresh urine. The precipitate is then separated on a filter and the filtrate treated with ammonium hydroxid. Following this the precipitate is collected, washed, and suspended in water and decomposed either with oxalic or sulphuric acid or with hydrogen sulphid. By treating with calcium carbonate an eventual excess of oxalic acid, and by adding a concentrated solution of neutral lead acetate an excess of sulphuric acid is removed. After another filtration the filtrate is boiled to effect the separation of the excess of hydrogen sulphid. The filtrate reduces Fehling's solution.

Dextrose may be separated from the urine in a variety of other combinations; for instance, as sodium-chlorid-dextrose—$(C_6H_{12}O_6)_2NaCl+H_2O$—as potassium dextrose—$C_6H_{11}KO_6$—as cupric-hydroxid-dextrose—$C_6H_{12}O_65Cu(OH)_2$, and as benzoyl-dextrose. In my experience, however, the repeated crystallizations from alcohol or methyl alcohol is the most simple and at the same time the most reliable method for the preparation of the urinary glucose.

If after several attempts I have not succeeded in isolating glucose from the urine, I proceed to qualitatively determine the urine constituent or constituents which have caused the reaction. Quite a number of urinary substances other than glucose may bring about a reduction or pseudoreduction of the bismuth salt. The Penzoldt-Rubner test, at its worst, only reacts with two other urinary constituents—glycuronic-acid combinations and indoyxl in excess. In case this test has given positive results which as afterward proved were not found due to the presence of sugar, I make a search for the glycuronic-acid compounds and for indoxyl. I ascertain the nature of the bismuth reducing agent or agents, only when no reaction has occurred with the Penzoldt-Rubner test. The tests for indoxyl and some of its compounds are simple. I have already described a method for the detection of this urinary constituent.

It is a simple matter to differentiate between urinary glucose on the one hand and glycuronic acid or any of its compounds on the other, provided the former occurs in the proportion of .5 per cent. and over, as the latter do not ferment with alcoholic yeast. However, if glucose is present in but minute quantities, it is often very difficult to identify the glycuronic-acid combination, as it possesses reducing qualities similar to dextrose. The glycuronic-acid combinations are found in strongly levorotatory urines only, and they may thus be recognized. Glycuronic acid, *per se*, is, like glucose, dextrorotatory.

The identification of dextrose in human urine can not be accomplished by any single test. The copper tests, as Fehling's, Pavy's and Purdy's, serve admirably when employed for quantitative determination after identification has taken place. The employment of a copper test without a control process, even in mere routine work, is objectionable. How we are all apt to wrongly interpret a copper test is drastically shown by the following illustration:

A woman, aged 63, affected with diabetes mellitus for several years, was referred to me by her family physician.

A careful urinary analysis, made after the positive recognition of dextrose, revealed the presence of 101.82450 grams of this substance in 1925 c.c. of urine, the diurnal output. The patient was placed on a diet rich in proteids and fats, and at the end of one week, the urine was again subjected to examination. The patient was anxious to know the result of her week's dieting before she left for home—a neighboring town—and I myself, having been greatly pressed for time, applied Fehling's test. Reduction soon occurred and the patient was advised to continue with the rigid diet. A week after, under similar circumstances, on the application of the same test, reduction again ensued. The patient who positively denied having ingested any carbohydrates, remonstrated on being told that she had to still continue her abumin-fat diet, and gave me to understand that she would cease dieting. A more careful examination of the urine several hours after her departure pointed out the absence of glucose but revealed the presence of creatinin in excess—the true reducing agent. Undoubtedly the enlarged consumption of meat had given rise to an increased amount of creatinin. Thus, through sheer neglect a patient came nigh leaving me.

The concomitant phenomena of a supposed glycosuria are not always well pronounced and the diagnosis hinges, therefore, solely on an examination of the urine. In other instances where the symptoms unmistakably point to diabetes mellitus and the behavior of the urine to the different reduction tests is indicative of the presence of glycosuria, we may well assume the presence of this affection. However, without its definite identification we are never certain that glucose is the real reducing factor.

My experience does not tally with that of Saundby,[12] who maintains that during the many years he has devoted special attention to urinary diseases and diabetes, he had never seen but sixty-nine specimens of non-diabetic urine which reduced copper. I do not know what proportion these sixty-nine instances form of the total urinary examinations conducted by Saundby, but I assert that every sixth or seventh case of "diabetes" referred to me for treatment is neither diabetes nor glycosuria, and that the urine of the majority of these patients reduces copper in an alkaline solution.

Viewed in this light, we may readily understand some of the occasional spontaneous cures of diabetes, as these cases, in all likelihood, were but those of pseudoglycosuria. Pseudoglycosuria, however, is a negation in itself, an affection which does not exist, a euphemism for a reduction test erroneously interpretable or interpreted.

The identification of glucose in human urine has not been accorded the attention which its importance might demand, and a great deal can still be said and remains unsaid by me on this subject; but I feel that I have already transgressed beyond the limit of your patience. If you, however, agree with me as to the importance of this theme, you will not find me guilty of having carried coals to Newcastle.

56 East Seventy-sixth street.

Diagnosis of Stricture of the Esophagus.—Pauli has found that a stricture of the esophagus can be diagnosed by having the patient ingest 80 to 100 c.c. tartaric acid, and then in twenty minutes a solution of potassium bicarbonate. If the esophagus is freely permeable, nothing unusual is observed in consequence, but if there is a constriction, the mouth fills with foam from the effervescence.

The Cash Value of an Infant's Life.—Are more than nominal damages recoverable for the negligent killing of an infant incapable of earning anything, without direct evidence of pecuniary damage other than sex, age, and condition of health of the infant at the time? This was the contested question presented to the Supreme Court of North Carolina by the case of Russell vs. The Windsor Steamboat Company. Here, a male child five months old had been killed by the alleged negligence of the company, and the father brought this action to recover damages. However, he did not try to enforce the common law remedy, to which the court says that he would probably have been entitled, of an action based upon a loss of services. Instead, he sued as administrator, under the North Carolina statute, which does not regard the family relation, but gives the cause of action to the personal representative of the deceased, without distinction as to age. Thus, the case was made purely and simply one to recover the net value of the child's life—not what his services might have been worth to some one else during his minority, but what his entire life would have been worth to himself, had he lived. In other words, this action was brought just as it would have been had the one killed been of adult age. Now, suppose, says the court, that the child had survived; but as a cripple, condemned to a life of dependence, and perhaps of pain, could he not have recovered damages in a suit by his next friend. If so, could not his personal representative recover them under the statute mentioned? The court holds that he could. It declares that it sees no distinction in the law, nor reason for distinction, between the death of a child and of an adult. The measure of damages is the same, though, it is frankly admitted, the difficulty of its application is greatly increased in the case of an infant. Still, the court continues, the jury must do the best they can; taking into consideration all the circumstances surrounding the life that is lost, and relying upon their common knowledge and common sense to determine the weight and effect of the evidence. Where life is lost by reason of the actionable negligence of another, the measure of damages, it holds, is the present value of the net pecuniary worth of the life of the deceased, to be ascertained by deducting the probable cost of his own living from the probable gross income derived from his own exertions, based upon his life expectancy. The expectancy of an infant of five months, it adds, is a matter of evidence, like other circumstances of health, constitution, and habits. Then, the court says, there is another view of the question which forces itself upon its mind. This, perhaps, it was not called upon to consider; but, unless forced to do so by the overwhelming weight of authority or the inexorable logic of legal conclusion, it insists that it would be reluctant to admit that a human life, however lowly or feeble, had no value, in the contemplation of a common carrier. Even a new-born colt or calf has an actual value, entirely dependent upon its future usefulness or salability. The court also says that it is a matter of common knowledge that during the days of slavery a healthy negro child, even at the breast, was considered as worth at least $100. It then suggests that this contrast be considered. A helpless negro baby, lying upon the floor along which he could not crawl, and born to a state of hopeless bondage, was worth to the owner at least $100 as a chattel; and yet another baby, with generations of inherent qualities behind him, and the magnificent possibilities of American citizenship before him, is not worth to himself, or to the country whose destinies he might one day have shaped, even the penny necessary to carry the costs. This view the court pronounces entirely too incongruous to strike its fancy. Wherefore, it holds that the plaintiff was entitled to recover substantial damages, and affirms a judgment in his favor for $1000.

Mortality from Snake- In The
states that during the past
deaths from snake bites in
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12. Non-diabetic Glycosuria, Brit. Med. Jour., April 14, 1900.

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SATURDAY, SEPTEMBER 22, 1900.

PNEUMATOPATHOLOGY.

Many pathologic conditions in various parts of the body are associated with the production of gas, even where gas is normally absent. There has been much discussion concerning such mysterious conditions by writers of the past, the problem being mostly whether the gas was atmospheric air or of putrefactive origin. With the advent of bacteriology the solution of this question, at least in some of its phases, was to be expected; and the discovery by Welch, in 1891, of the bacillus aërogenes capsulatus has already thrown much light on gaseous affections and processes. In the Shattuck Lecture, 1900, Welch[1] gives an extended review of the morbid conditions caused by this bacillus. There is no question that this organism is the one most frequently at work in cases of abnormal gas-production in the tissues; and its causative rôle is definitely established. The number of morbid conditions produced by it is large and varied, many of them of great clinical importance and heretofore poorly understood. The natural habitat of the bacillus is the intestinal canal and the soil, hence the liability to frequent infection. An important biologic property is its power to form gas from proteid materials.

In the first place it is notable that the organism may produce gas bubbles throughout the blood and the organs—"foamy organs"—within a few hours after death from the most varied causes. Formerly these cases were explained as the result of air embolism, especially in pregnant and puerperal cases. Whether the invasion of the bacilli and the development of gas are antemortem or post-mortem phenomena can not always be determined, but Welch concludes that in most cases of this sort the invasion of the bacilli occurs post-mortem or shortly before death. The bacillus aërogenes capsulatus being anaërobic, it is not likely that it multiplies in the circulating blood, but there is no valid reason against its multiplying during life in internal organs, such as the liver. Examples of the bacillus having been carried from an infected portal of entry to distant parts where necrosis and emphysema were produced have been detailed by various observers. Great care must be taken to distinguish between air embolism and gas bacillus invasion; this would generally require a careful bacteriologic examination.

"It is as a cause of that most dreaded of wound complications, emphysematous gangrene, that B. aërogenes capsulatus especially claims the interest of surgeons." Recent investigations show that most cases of emphysematous gangrene are caused by this bacillus and not by Pasteur's "vibrion septique," also called bacillus of malignant edema—Koch and Gaffky. Cases of gaseous phlegmons occur occasionally, especially in our large hospitals, but also elsewhere, and they merit study by exact bacteriologic methods in order that their etiologic relations may be cleared up fully. Welch has collected 56 cases of emphysematous gangrene associated with B. aërogenes capsulatus; the majority of these cases are American, and naturally all occurred since 1891. In all but 5, these cases followed traumatism or surgical operation, the infection generally occurring from without; in a few cases it undoubtedly came from the intestine. Mixed infection is common in this series, but the disease is really sui generis. Death occurred in 59.5 per cent., being caused probably by a toxemia. There is no proof that gaseous embolism may cause death in cases of this sort. It is of great importance that an early diagnosis be made so that radical measures may be instituted in time.

Important uterine infections may result from B. aërogenes capsulatus. Welch considers separately emphysema of the fetus, puerperal endometritis, physometra, emphysema of the uterine wall, and puerperal gas sepsis. There can be no question that many, if not most, cases reported as death from air embolism following abortion and labor are instances of invasion with Welch's bacillus from the uterus.

The urinary tract may become infected with the gas bacillus, which may then spread into adjacent tissues and into the circulation. Gas may be free in the cavity of the bladder, the ureters or renal pelvis, or contained in submucous blebs.

Another starting-point of invasions of B. aërogenes capsulatus is *the gastrointestinal canal, which* frequently, if not constantly, harbors the bacillus; hence the intestine is the most frequent source of the bacilli in the gaseous blood and foamy organs found at autopsies. There may also be local gastrointestinal lesions with or without gas cysts. Pneumoperitonitis with or without perforation occurs, and the gas bacillus may invade the bile-ducts and gall-bladder, especially in the case of diseases of and operation on these structures. Gas cysts of the genitourinary, gastrointestinal and biliary tracts, submucous and otherwise, due to the gas bacillus, constitute an interesting series of lesions. Levy has demonstrated B. aërogenes capsulatus as a cause of pneumothorax with perforation, and similar cases are referred to by other writers. Gwynn found Welch's bacillus in the blood during life, and Welch expresses the suspicion that Achalme's anaërobic bacillus found in acute articular rheumatism is identical with the gas bacillus. Howard and others have found the gas bacillus in pure culture in meningeal exudates, thus bringing further evidence of the pyogenic powers of the organism; and the bacillus may also cause cavities in the brain—Reuling and Hering[2], Howard.

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[1] Boston Med. and Surg. Journal, July 26, 1900; also Johns Hopkins Hospital Bulletin, Sept., 1900.

From this imperfect enumeration of the various lesions considered by Welch and caused by the bacillus aërogenes capsulatus, it is seen that pneumatopathology at present is dominated by this organism, a knowledge of whose characters and properties is essential for a full understanding of many important processes. Although described fully in 1891 and since made the subject of numerous papers in American journals, knowledge of the gas bacillus of Welch has been very slow in reaching workers in other lands; and throughout his lecture Welch repeatedly calls our attention to the erroneous conclusions and incorrect statements made by French and German writers on account of their ignorance of American publications.

THE RELATIONS OF SCIENTISTS TO NEWSPAPERS.

The deep-seated feeling in the medical profession against the newspaper as a purveyor of information concerning medical matters and the doings of medical men in general rests on the knowledge that in the majority of cases the motive underlying such publications is of a largely selfish and commercial nature, subversive of the true interests of medical science. Unfortunately, the newspaper does not consider the question in the same light. Its chief aim is to give publicity to anything that its editor thinks may please the omnivorous public. Knowing that the general run of its readers are incompetent to discriminate between genuine achievements and pure bluff and braggadocio, the inquisitorial reporter—than whom there is no greater heresiographer—is detailed to interview alike the true man of science and the mountebank. Rocky Mountain goat's lymph, wonderful operations, and studies in chemical and other forms of artificial fertilization are heralded in display type and in the same sensational manner, so that it appears as if seekers of cheap notoriety had secured a foothold even in our great universities—"quacks political; quacks scientific; academical."

Notable achievements of whatever nature, be it physical, biologic, or more exclusively medical and surgical, merit full publicity. The citizens of the community are entitled to learn of remarkable and important additions to knowledge made by men at work in their midst, perchance at institutions in which the public is and has a right to be interested. It ought to learn that progress is being made and that scientific pursuits are flourishing. Information of this sort is encouraging and stimulating; it breeds confidence in home institutions and creates a wholesome interest in their welfare. But this information should be made public in a manner and taste befitting its scientific character and the modesty that the scientist is traditionally reputed to manifest in his own work and personality—a tradition not wholly of the past but illustrated well even at the present time and by men that for this very reason not infrequently are *greatly misrepresented by the harmful activity* of overzealous assistants and local press bureaus.

There is always good occasion for earnest pleas in favor of modification in the editorial management of our newspapers in respect to matters of this kind. The fundamental and far-reaching importance of truth and the wholesome effect of tasteful moderation in statement seem to be sadly neglected in the education of journalists of the present day. Clear, concise recitals of notable work in these various fields of science including medicine, shorn of all irrelevant embellishments and superlatives, carefully edited by competent persons and signed by the authors, would remove many of the serious objections that now hold against the newspaper as a medium of dissemination of scientific knowledge. But how and when are we to expect so much consideration for the right and proper on the part of a press sunk so low in commercialism that it preys on the health of its readers by accepting advertising patronage from the most shameless frauds—patent-medicine makers and quack doctors?

THE MARRIAGE OF CONSUMPTIVES.

A leading daily paper publishes what purports to be the opinions of certain noted European authorities on the question: "Should consumptives marry?" These are, naturally, unfavorable. There are few, if any, physicians who, if asked their general opinion as to the propriety of a consumptive marrying, knowing himself to be such, would care to give a favorable reply. The probabilities of good resulting to the individual, as far as his or her physical welfare is concerned, are practically *nil*, while the perils of the marriage state are very real for the husband and still more so for the wife. When, however, the question is an actual and practical one we fear there are many physicians who would feel embarrassed and would prefer to avoid the responsibility of expressing an opinion in a given case. While on the one hand we have the possibilities of direct aggravation of the disease, the dangers of communication to a healthy partner, the prospects of early bereavement and distress, and lastly the real though remote possibility of direct transmission to offspring, and the probably still greater danger of transmitting a weakened and predisposed constitution, yet we have numerous instances of marriages where none of these consequences ensued, and some where the result was an apparent betterment of conditions in all respects. It may, as Professor von Leyden is quoted as saying, be best not to be too positive and to consider that medical advice on this subject is apt to be disregarded, and if the physician insists too much he may succeed sometimes "only in fashioning a wedding gift that may turn out a cross by and by; the thought of disease lurking in the beloved husband's or wife's every caress," out of which no good can come. [illegible] stic[illegible] to [illegible] actual outcome of happiness in [illegible] is one that no physician can [illegible] that a favorable balance is sometimes struck, with all the apparent conditions to the contrary. This may serve us for consolation when we consider how many such marriages are constantly taking place.

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[2] THE JOURNAL, Vol. xxxii, p. 1603.

Leaving aside, however, the problems that involve only the contracting parties, there still remains the very serious question of the interests of those that are to be the offspring of such unions. No one "liveth to himself or dieth to himself," and this is especially true of the married consumptive. It is customary nowadays to consider only the bacterial causes of consumption, and a certain class wedded to the idea of a hypothetical germ plasm deny that acquired characters can be transmitted, thus discrediting the possibility of the direct heredity of the disease otherwise than through actual transmission of its germs. All pathologic and clinical experience is against them; there is nothing more certain than that disease of the parent modifies the constitution of the child, often producing an actual homologous morbid heredity, as is particularly observed in insanity and some nervous and other disorders. There is a growing tendency to consider the incidence of consumption as depending more on the soil than the germ, and there is nothing more certain than that it sometimes transmits to offspring a weakness or predisposition to itself and to other constitutional diseases. If the infection were always fatal few would escape, but it is harmless to the most of us in spite of ample exposure. The popular notion of the heredity of the disease, however, is based on actual experience and observation, though it is not the disorder itself but the prepared soil for it that is transmitted. This fact adds very much to the responsibility of those who propose to advise the marriage of consumptives, and while we can have no certainty that the children of such a union will suffer for their parents' disease, we must recognize the fact that as compared with others they often enter life under a serious disadvantage. This alone should be enough to make us use our influence against the possibility of the begetting of future victims.

We have not used the words "tuberculous" or "tuberculosis" here, because they have a much wider significance and by no means so serious an import. Many people suffer or have suffered from tuberculosis in one form or another where it is a comparatively trivial affection, and in some the course of genuine pulmonary infection only shows the strength of their constitution and resisting powers. These remarks apply only to those who are the subjects of true pulmonary phthisis.

THE OCULIST AND THE OPTICIAN.

The relations that exist betwen the physician and the druggist to whom he sends his patients for prescriptions, find a parallel in the ophthalmic surgeon who directs his clients to a particular optician. The same ethical code that regulates, or should govern, the doctor and his patient equally applies to the oculist and his patient. It seems necessary to add, moreover, that the laws of the codex, to be effective, should be based on the experience of years and should stand the application of common sense. It is not enough that the professional man should accept the code of ethics as he might any other authority; it is not sufficient that these rules should be simply organic with him, as the result of their reiteration since he began the study of medicine, because he must often furnish to lay persons good and sufficient reasons; for such action, based upon them, is expected to influence the conduct of himself and others. He must lay bare the foundations of the faith that is in him.

Apart from the canons of the code, why is it that every community, after considerable experience of the various methods of regulating the business relations of physicians and druggists, has concluded that it is not only against the public policy, but inimical to the best interests of the medical profession, to pay a commission on prescriptions sent to him by the physicians? Although we commonly say that the acceptance of such a commission is objectionable because it is contrary to the code of ethics, we do so with the proviso that it is equally opposed to the dictates of the medical conscience and to the experience of everyday life.

When it is asserted by the optician that there is nothing wrong in the payment of commissions to ophthalmic surgeons who send him prescriptions for eyeglasses and spectacle lenses, the answer must be somewhat different from that which would be given to a member of our profession. One might expect the latter would accept the united experience of his confrères in all countries as a reply to such an assertion; if not, he must, in common with the laity, be asked to consider for a moment what an action of this sort implies, and what the patient who pays the bill would think of it and those who have been a party to it. Furthermore, we can not avoid the inquiry as to what effect such a transaction will have on the prescribing surgeon and the profession to which he belongs.

When the patient pays the ophthalmologist for his services and receives from him a prescription for glasses, he has a right to expect, and does expect, that the surgeon will direct him to an optician who will fill the prescription at a fair market rate and that the transaction is then entirely between the optician and himself. When a commission is paid, either the patient gets that much less in the quality of the goods or in the attention that is paid to him, or is charged just so much more than he ought to be, usually under some false pretense or other. The other alternative proposition, that the optician "divides" his profit with the oculist, is probably never true. In the end it will be found that the patient gets less for his money than he ought to, that the optician charges more than he should, and that the dubious difference is stealthily handed over to the ophthalmologist. Surely such an underhand proceeding is unworthy the practitioner of a profession like ours, and it hardly seems possible that for the sake of a few dollars any right-minded man would be willing to countenance it. Beginning with a breach of confidence on the part of the physician himself, it terminates in an undignified performance that reminds one of nothing more than the storekeeper's commission to the false guide who steers the unsuspecting customer into his shop. The above comments are called forth by a "Query" on p. 783.

MEDICAL ORATORY.

We publish this week an article on "Physicians as Speakers," which can be recommended as instructive reading. The medical is the only one of the three learned professions that pays no attention to oratory, and popularly, as well as in the profession itself, the idea prevails that a physician has no need of any accomplishments in that direction. Mr. Whitford shows from a reporter's standpoint how erroneous this notion is; he makes it plain that for the physician who is to take any active part in the progress of medical science a pleasing and effective elocution is in no sense a useless accomplishment. The higher a man rises in the profession, the more essential he finds such ability; he may be eminent as an investigator, a practitioner, and a writer, and yet be seriously handicapped in comparison with men far below him in all these respects by the lack of power, of command of language, and easy and attractive delivery. A great engineer once said, when worsted in argument by those whose opinions on the subject he could not particularly respect: "There is no gift like the gift of gab." This is a rough statement of a very much more serious truth than was sarcastically implied by its utterer. It was the gift of speech that raised man above the brutes, and it is the same, even in these days of printer's ink, that still often raises man above his fellows. The medical profession may not demand, as generally as the others, oratorical accomplishments of its members, but it does call for them to a certain extent, It is not alone, however, for medical meetings, college lecturing, etc., that the physician requires a proper elocutional training; the profession is constantly coming more and more to the front as a public educator and administrator of affairs, and here the value of such training is most manifest. No medical man will be the loser for having such an accomplishment, and the world would be a gainer if more of us had it. It is well, in this regard, to see ourselves as others see us, and for this reason alone the article should be profitable to our readers.

RAILWAY SANITATION.

It is said that at least two railroads in this country propose to remodel, or at least modify, their passenger coaches on sanitary lines. The plush upholstering, elaborate dust-concealing grill and carved work, heavy carpets and curtains are to be replaced by leather, smooth woodwork, linoleum, etc. The public will probably miss some of the splendor of the old régime, but this will, we trust, be more than compensated for by the greater sense of safety they will feel from contagion. There will be more than this needed, however, to bring railway travel up to the constantly widening sanitary ideals of the present day, and these can hardly be met in full without the active co-operation of the traveling public. The common drinking-cup may be replaced, as has been suggested, by the cheap paper substitutes for individual use, and possibly individual soap and paper towels may come into use on the sleepers, but the day cars with their constantly changing inmates are a more puzzling problem. What to do with the expectorators is one question. Judges have decided that the right to spit is inherent, and if it is to be restricted receptacles must be provided. Will the railroad authorities attach a disinfected cuspidor to every seat, or will they require expectorators and smokers to herd together? This question is as important as any one that is to be considered in the sanitation of railway carriages, though there are others generally treated as more important. The spitting habit is the most common of all insanitary nuisances, and it ought to be one of the first taken in hand in the reform. A passenger can protect himself by carrying his own drinking-cup, as well as brush, towel and soap, but he would not like to be compelled to carry a cuspidor for his neighbor's use, and he can rely on it that the average expectorator will never carry one for himself. We expect, however, to see the sanitary reform progress, and it may be that it will meet this evil as well as others.

THE EVILS OF TIGHT LACING.

While it might not be easy to give a succinct definition of the "new woman," she may be described as one who has been emancipated from the bonds of tradition and has been permitted to find the place of usefulness in the world that she is capable of filling; and there is not wanting evidence that she has profited by the new opportunities thus afforded. In one respect, however, she has, as yet, failed to exhibit her independence and her strength, and that is in her continued and almost abject submission to the dictates of fashion, regardless of hygienic considerations. For instance, can anything be more conceivably dangerous than the trailing skirts with which women have so largely of late swept filthy streets, raising clouds of bacteria-laden dust, and carrying into their homes the agents of disease and death? Further, in spite of all the denunciation that has been heaped upon the practice as non-hygienic, and notwithstanding the admonition of competent authorities, the large body of women persist in the use of the corset and of unduly constricting and otherwise irrational forms of clothing. It is true, a strong counter-current has set in, and shorter and properly supported skirts, as well as other reforms in the wearing apparel of women, have been adopted, but they are not nearly so numerous and so universal as they should be. Some experimental observations made by Thiersch[1] illustrate the evils resulting from constricting clothing, and more especially the use of the corset. These consist more particularly in compression of the chest, with interference with respiration and circulation; in enfeeblement of the extensor muscles of the back, with difficulty and discomfort in maintaining the erect posture; in interference with the circulation and the nutrition in the compressed skin, as well as with the circulation in the portal system; in displacement of the intestines downward, and distortion of the liver and stomach, with digestive derangement and dislocation of various abdominal viscera. It is not denied that under certain exceptional conditions the corset may subserve a useful purpose, as in obese and well-built and well-developed women; but under no circumstances should its use be permitted to girls during the developmental period. Reform in this direction has already begun, and it can not be too speedily carried to a successful termination.

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[1] Deutsche Archiv f. Klin Med., Bd. lxvii, H. 5 u 6. s.

Medical News.

The Journal in the Literary Exhibit at Paris.—We have just received the following announcement from Paris: "I have the honor to inform you that in accordance with the official announcement of awards at the Paris Exposition of 1900, a Grand Prize was bestowed upon the exhibit of United States journals, publications and periodicals, and that you are therefore entitled to use this award of Grand Prize." Signed, A. S. Capehart, Director of Liberal Arts and Chemical Industries.

The Maharaja of Jaipur has given 15 lakhs of rupees, equivalent to $500,000, toward an "Indian People's Famine Trust."

Dr. Rudolf Virchow's golden wedding was celebrated August 24. One son, Dr. Hans Virchow, is professor of anatomy at the University of Berlin; another is Dr. Karl Virchow.

It is stated by the *Medical Press and Circular* that Assistant-Surgeon O'Neill has been murdered by the Boers. He was out with an ambulance in search of wounded. A party of Boers came upon the ambulance, seized it, and ordered the medical officer away. They subsequently recalled and shot him.

Third Pan-American Medical Congress.—The Southeastern Passenger Association has granted a one-fare plus two dollars rate for the round trip to Havana, Cuba, for the December meeting of the Congress. The steamship lines have granted a one-fare rate. The other passenger associations are considering the matter and are expected to grant the same rate.

Dr. John E. Clark, of Detroit, has just returned from Glasgow. He says the city's calamity is great, the schools are closed, and her trade and commerce with the outside world has been closed. Every exertion possible has been made by the health authorities to guard against the spread of the plague. The "contacts" are placed under observation as soon as discovered.

In a Valedictory Address delivered by the late Dr. Jacob M. Da Costa to the graduating class of 1891 at Jefferson Medical College, he said: "A teacher will not simply instruct; he will do more, he will educate. Through his pupils he lives; the man passes away; the teacher remains in his pupils and becomes part of them. When the hour comes that I shall lay down this robe of teaching, when the time arrives that I shall address you no more, there will always remain the thought —I say it in all humility—that I shall live in you. I shall be with you in your struggles, shall share with your successes. At every bedside of distress, at every bedside of hope we meet again. The teacher is inseparably joined to you, to all his pupils. Awful, ever-present responsibility, constant excitant to truthful, arduous effort; and happy is he who has been so guided that he has never forgotten his responsibility nor relaxed his exertion; that he has used God's gift of teaching for God's purpose."

CALIFORNIA.

Dr. Frederick Reynolds, of Los Angeles, late interne at the county hospital, has been appointed assistant-surgeon at the Soldiers' Home.

Dr. Cornelius F. Buckley, one of the pioneer physicians of San Francisco, was badly bruised and cut about the face and body in a runaway accident, September 3.

Dr. Frederick W. Hatch, of Sacramento, now general superintendent of State Hospitals for the Insane, will, it is reported, be made superintendent of the Napa Asylum, to succeed Dr. A. M. Gardner, resigned.

Highland Asylum was found by the State Board of Health to be greatly overcrowded. It was clean and in good sanitary condition. The board recommends that a large wing be erected.

The new Railroad Hospital, which has been remodeled from the old Charles Crocker residence, San Francisco, will be thoroughly equipped and ready to receive patients October 1. The old hospital will be torn down.

The hospital stewards at the Post Hospital, San Francisco, complain that they are obliged to be on duty thirty-three hours out of forty-eight. The watches are divided into stretches of fifteen and eighteen hours. The hospital is crowded and the hospital corps undermanned.

The new operating wing of the Mater Misericordiæ Hospital, at Sacramento, was formally opened on September 8. The suite of rooms comprises, in addition to the operating-rooms, separate rooms for anesthesia, sterilizing, storage of dressings and dressing-rooms for operator and assistants.

The report of the Health Department of Los Angeles for August shows 131 deaths, or a death-rate of 15.26 per 1000. The causes of death were: Specific infectious diseases, 18; respiratory diseases, including 18 from tuberculosis, 32; digestive diseases, 17; nervous diseases, 15; circulatory diseases, 12; genito-urinary diseases, 10; violence, 9. The deaths included 80 males and 51 females. During the month 154 births were reported. The contagious diseases reported numbered 38—diphtheria, 12; scarlet fever, 11, and typhoid fever, 15.

COLORADO.

Gross Medical College, Denver, opened its twelfth annual session, September 12. Addresses were made by Professors Charles B. Van Zant, George E. Tyler and other members of the trustees and faculty.

The August mortality of Denver was 223—128 males and 95 females. Tuberculosis caused 37 deaths; typhoid fever, 9; scarlet fever, 2; diphtheria, 1; pneumonia, 10; cholera infantum, 14, and violence, 13.

CONNECTICUT.

Dr. Joseph E. Root, of Hartford, has returned from a two months' trip to Europe.

Dr. Victor S. Merritt, of Hartford, has bought the practice and property of Dr. Jackson, of Haydenville, Mass.

The State Board of Health report shows that there were 1642 deaths during the month of August. This was 59 more than in July, 260 more than in August of last year and 298 more than the average number of deaths in August for the five years preceding. The death-rate was 31.9 per 1000 for the large towns; for the small towns, 21.1, and for the whole state, 21.7. The deaths reported from infectious diseases were 612, being 37.3 per cent. of the total mortality. The prevalence and mortality of measles, scarlet fever, diphtheria and whooping cough are greatly abated, as compared with the preceding months of the year, but typhoid fever and acute intestinal affections have increased. The typhoid excess is probably due in part to the low elevation of the wells. Other diseases have not varied so conspicuously from their usual prevalence. Typhoid fever is reported as occurring during August in 56 towns in the state, with a mortality of 36, against 21 in August of last year. Several of the patients are reported as taken ill soon after vacations spent away from home. It would be very instructive and profitable if all the reports of typhoid cases indicated whether contracted at home or elsewhere. About a year ago it was stated that a large proportion of the victims of infectious diseases are among those who have been visitors at the different summer resorts in this or neighboring states. The same observation is likely to be realized this autumn, especially in the occurrence of typhoid fever. The unusual high temperature during August has operated with fatal effect on infantile life. Over 43 per cent. of the total deaths were of children under 5 years old. These deaths were, in the majority of instances, caused by diarrheal disorders and induced mostly by food rendered unwholesome by the changes produced in it by heat. Nursing babies and babies well fed on wholesome, unspoiled food do not suffer from hot weather more than adults.

DISTRICT OF COLUMBIA.

DR. D. PERCY HICKLING, of Washington, has returned from his European trip.

THE FOLLOWING general order was issued by the War Department September 10: The Army Medical School is governed by special regulations, and will have the following organization: The faculty will consist of four or more professors, selected from the senior officers of the Medical Department stationed in or near the city of Washington, and such associate professors as may be required. The senior officer will be president and the junior secretary of the faculty. The student officers will be selected by the Surgeon-General from those medical officers who have been appointed since the last preceding term of the school, and such others as may be authorized to attend.

FLORIDA.

DR. MARTIN KENNEDY, of Bartow, will locate in Pensacola.

ILLINOIS.

DR. JOSIAH C. TAYLOR, of Hull, has moved to Rich Hill, Mo.

DR. PAUL DOMBROWSKI, of Peoria, has returned from Paris.

DR. ROY W. RIGGS, of Winchester, has moved to Newark, S. D.

DR. ALVA C. FOSTER has moved from Blue Mound to Columbia, Mo.

DR. CHARLES A. HANDLEY'S office, at Isabel, Edgar County, was destroyed by fire September 2. He lost his library, instruments, medicines, etc., his loss being more than $1000.

DR. JAMES O. DECOURCY, assistant city physician of East St. Louis, resigned his position September 11, because, when he protested against the reduction of his bill for $500 for treating smallpox patients to $250, the board of supervisors still further reduced his bill to $100.

Chicago.

DR. JACOB FRANK returned, on September 15, from his summer in Europe.

DR. WILLIAM L. BALLINGER is lying dangerously ill at the Evanston hospital.

DR. ROBERT D. BOYD has returned after a vacation of a month spent on the Great Lakes.

DR. AND MRS. JULIAN E. HEQUEMBOURG have returned after a summer vacation at the seashore.

DR. J. M. WASHBURNE was married to Miss Margaret Price, of Buckhart Township, September 2.

DR. ROBERT C. WILSON has returned from Lake Harbor, Mich., where he spent July and August.

DR. AND MRS. GEORGE F. FISKE have returned from a two-months' stay in Colorado, and sail for Europe to-day.

DR. CYRENIUS A. DAVID, who has been spending several months in Europe, returned to the city on September 5.

DR. AND MRS. J. ELLIOTT COLBURN have returned from their trip to Europe. After visiting the Paris Exposition they took a 500-mile bicycle trip through southern England and Wales.

DR. OTTO H. PAGELSON, who has recently completed his interneship at Cook County Hospital, has located in Iowa Falls, Iowa, where he will be associated with Dr. Melvin W. Hill.

DR. LEO LOEB, of the University of Chicago, has returned from his sojourn at Woods Holl, Mass., where he has been experimenting on the development of life from unfertilized eggs.

DR. FRANK BILLINGS, who has spent the last two months at Mackinac, for rest and recuperation, has returned. He was ill with malarial fever for several weeks, but has entirely recovered.

DR. JOSEPH HAVEN, United States consul at St. Christopher, West Indies, has been spending a few days in Chicago. He has recovered his health and expects to return to his practice in Chicago early in the spring.

IN MEMORY of Dr. Ernst Schmidt, the trustees of the Michael Reese Hospital have adopted resolutions, setting forth his service as surgeon to the hospital for twenty years, extending the condolence of the officers and trustees to the family and inscribing his name on the hospital roll of honor.

THE COLLEGE OF PHYSICIANS AND SURGEONS will open on October 1 with an estimated total enrollment of 700. In addition to the faculty changes already noted, the following appointments have been made: Dr. Harris E. Santee, professor of anatomy; Dr. John L. Porter, professor of orthopedic surgery; Dr. Joseph M. Patton, professor of physical diagnosis; Dr. Daniel N. Eisendrath, professor of clinical anatomy; Dr. Don L. Shaw, professor of anatomy; Dr. Julius H. Hoelscher, professor of clinical medicine; Dr. Bernard Fantus, adjunct professor of materia medica; Dr. August F. Lemke, adjunct professor of practice of medicine; Dr. Edward H. Lee, adjunct professor of practice of surgery; Dr. James M. Neff, adjunct professor of practice of medicine; Dr. Aristides E. Baldwin, adjunct professor of stomatology; Dr. Eugene R. Whitmore, adjunct professor of chemistry; Dr. Samuel J. Walker, adjunct professor of clinical anatomy and instructor in surgery; Drs. Edward F. Wells, William K. Jaques, and James W. Walker, adjunct professors of practice of medicine; Dr. Leo Loeb, assistant professor of pathology; Dr. William H. Rumpf, instructor of gynecology.

HEALTH DEPARTMENT.

Recent heat and humidity are responsible for the increased mortality from the acute and intestinal diseases. For more than two weeks there has been an almost epidemic prevalence of these ailments, but not until last week did this show an increased number of the diarrheal deaths—116 as against 94 the week previous and 85 during the corresponding week of 1899. Notwithstanding the increase from this cause, the total mortality from all causes numbers only six more than for the first week of the months and the death-rate for the last fortnight is only 13.75 per thousand of the Federal figures of population—1,698,575. The interrupted flow of the drainage channel has had no effect on the sanitary quality of the public water-supply as determined by chemical examination, and the increase of typhoid fever must be due to some other cause—probably the usual seasonal increase. The increase is not great enough to cause alarm, while the comparison with the period before the drainage channel was opened still continues favorable. During the first fortnight of September, 1899, there were 25 typhoid deaths, and during the same period this year there were but 17 deaths from this cause. The mortality for the week ended September 16, was 450, an increase of 59 over that of the corresponding week in 1899, the respective death-rates per thousand being 13.81 and 12.71. Of males 236, and of females 214 died. Under 1 year of age, 120 deaths occurred; between 1 and 5 years, 67; and the same number over 60 years of age. The principal causes of death were: Acute intestinal diseases, 116; consumption, 40; cancer, 35; heart disease, 31; nervous diseases, 28; violence, 21; Bright's disease, 15; pneumonia, 14; apoplexy, 11; typhoid fever, 10; diphtheria, 7, and suicide, 7. During the week 66 cases of contagious disease were reported—scarlet fever, 28; diphtheria, 37; whooping-cough, 1; typhoid fever, 13. At the stockyards 62,202 pounds of meat were condemned. Of the 454 samples of milk [illegible], 9.C per cent. were found to be below g.

INDIANA.

Dr. F. Blair Humphreys has moved from Fremont to Angola.

Dr. Minor Morris, of Indianapolis, has moved to Washington, D. C.

Dr. George H. Grant, of Richmond, health officer of Wayne County, is very ill with typhoid fever.

Dr. S. C. Markley, of Richmond, was elected city physician and police surgeon of Richmond, September 4.

Dr. Austin Funk, of New Albany, has been appointed on the staff of the United States Marine-Hospital at Cairo, Ill.

Dr. Charles A. Ross, of Leopold, has been appointed acting assistant-surgeon in the army, and has started for his post of duty in China.

Dr. William D. Schwartz, of Portland, has sailed for Europe. He intends to pursue his studies in the hospitals of London and Paris.

St. Margaret's Hospital, Hammond, has organized its staff as follows: Dr. Cyrus W. Campbell, president; Dr. James T. Clark, vice-president; Dr. H. Edgar Sharrer, secretary. The hospital will be ready to receive patients in a few days.

The Board of Health of Logansport announces that, in view of the existence of smallpox in the city, and of the order for compulsory vaccination recently promulgated by the board, it will vaccinate free of charge all school children whose parents are unable to pay for vaccination.

Marion has a strong anti-vaccination party, which has formed a society whose members have agreed to send their children to school in defiance of the compulsory vaccination orders, and if not allowed to enter the matter will be taken to the courts.

The new state law, which goes into effect this fall, provides that first-year students who do not possess a literary degree, a diploma from a high school, or a teacher's life certificate must pass an entrance examination before a representative of the State Board of Medical Registration, who must not be in any way connected with any medical college.

Dr. Joseph G. Rogers, superintendent of the Northern Insane Hospital, at Logansport, saved the state a large sum by preparing the plans for the two new buildings erected this summer and superintending their construction. The trustees have granted him a vote of thanks for an honorarium, and have increased it by sending a copy of the resolutions to the governor.

INDIAN TERRITORY.

Dr. Franklin M. Duckworth has been appointed pension examining-surgeon at Claramore in the Cherokee nation.

Dr. Charles F. McElraith, formerly of Enid, has been appointed superintendent of the Canadian County Board of Health vice Dr. William J. Muzzy, of El Reno, resigned.

IOWA.

Dr. Albert E. Rector, of Lake Park, has moved to Spirit Lake.

Dr. Caleb P. Soper, of Spirit Lake, has moved to Warrensburg, N. Y.

Dr. J. W. Cokenower, of Des Moines, has returned from his European trip.

Drs. Egerton J. and Nellie M. Unger, of Mount Union, have located permanently in Keokuk.

Dr. Benjamin F. Andrews has given up the practice of medicine in Oskaloosa, and will enter the missionary field.

KANSAS.

Drs. Willis H. and Ida A. Hall, formerly of Topeka, have opened offices at Rock.

Dr. William M. Arnold, of Larnech, has been appointed coroner of Pawnee county.

The Kansas Medical College, Topeka, opened September 11. The attendance promises to exceed that of any previous year.

Dr. A. W. Schockley, acting asst.-surgeon, U. S. A., son of Major W. B. Schockley, of the Soldiers' Home, Leavenworth, has been made superintendent in charge of inspectors of sanitary work at Havana.

KENTUCKY.

Dr. James T. Blackburn has been nominated trustee for the Twelfth ward, Louisville.

Dr. Theodore N. Wise, one of the most highly esteemed physicians and citizens of Covington, is critically ill at his home.

Dr. Abraham S. Stanley, late of the house staff of the Western Kentucky Hospital for the Insane, has decided to remain in Hopkinsville and go into private practice.

LOUISIANA.

Monroe has elected a new board of health, consisting of Drs. Charles W. Hilton, Addley H. Gladden, and M. A. McHenry.

A plan for a proposed isolation hospital, which is urgently needed at New Orleans, has been approved and the city council is to be asked to authorize its construction forthwith. The plan, which was prepared by Dr. Sidney L. Theard, secretary, and treasurer of the city board of health, contemplates a hospital on the pavilion plan.

Dr. Quitman Kohnke, president of the New Orleans Board of Health, presented at the September 10 meeting a map showing the location of the 467 dairies which do business in the city. He also commented upon the decreased mortality of the city and stated that the death-rate for August was lower than for any August in the preceding five years.

MAINE.

Dr. L. S. Purrington has opened an office in Gray.

Dr. N. E. Nichols will locate for practice in Jackman.

Dr. Augustus B. Drummond, of Bangor, has gone to Rockland, where he will locate for practice.

Dr. B. F. Peabody has purchased the practice of Dr. Erving A. Libby, of Rangeley, and will locate there.

The contract for the masonry of the new Sisters of Charity Hospital, Lewiston, has been awarded, the bid being $28,490. The wood construction of the building has been contracted for at $39,171.

MARYLAND.

Typhoid fever is unusually prevalent in Carroll County, especially near Westminster.

The death of Mr. Henry C. Hallowell, of Montgomery County, removes probably the foremost sanitarian outside of the profession. For sixteen years he held the position of president of the board of health of Olney district, and by his untiring devotion to its interests, wise foresight and courtesy in carrying out the decisions of the board, he not only assisted materially in keeping alive voluntary sanitary association, but made it respected, appreciated and obeyed, by the general public, without opposition.

Baltimore.

Dr. G. Milton Linthicum is visiting the Paris Exposition.

The will of Mayor A. Nusbaum bequeaths $100 to the Hebrew Hospital.

The Maryland Medical College opened September 17 with an introductory address by Prof. Richard L. McNeer.

For the week ended September 8, there were 75 deaths among children under 5 years of age. There were 23 deaths from cholera infantum, 14 from dysentery, 4 from typhoid fever, and 29 from consumption.

The drinking water used in the school is the subject of much discussion. Owing to the prevalence of typhoid fever, the health commissioner has warned the citizens to boil all drinking water, yet no precautions are taken in the public schools, where the children drink out of open buckets exposed at all times, using a common tin cup.

The surgeon-general of the Marine-Hospital Service has asked the health commissioner to secure the aid of the steamship companies in preventing the introduction of the bubonic plague, as has been done by the authorities of New York. Dr. Wyman desires the ship's surgeon to take the temperature and make examinations of the crew and steerage passengers twenty-four hours before the vessel reaches port, and keep a record of the same for the guidance of quarantine officers.

The health commissioner calls attention to the great prevalence of typhoid fever in Baltimore. In August, 1899, 74 cases were reported, with 25 deaths; in August 1900, 189 cases were reported, with 37 deaths. The increase in cases reported and the lessened death-rate are believed to be due to a more strict compliance by physicians with the law compelling the report of typhoid cases to the department. It is not thought that there was such a large increase of cases as is shown in the figures. Formerly it was considered that the disease was limited chiefly to elderly people; now many children are found to be suffering with it. The following figures show the mortality in Baltimore from typhoid fever in the last ten years. Total deaths, 1928; 1890, 247; 1891, 150; 1892, 193; 1893, 224; 1894, 222; 1895, 173; 1896, 188; 1897, 189; 1898, 189; 1899, 153.

MICHIGAN.

Dr. William M. Harvey, of Detroit, sailed for Europe, September 8. He will study in Berlin.

Petoskey has raised nearly $5000 for a hospital and expects to have the foundations laid before winter.

The state law may be tested in the case of Miss Heideman, of Calumet, who came from Finland four months ago, and claims to have a diploma in medicine from the University of Helsingfors. She has been practicing in Calumet, but has taken no examination on account of her ignorance of English.

The Bay City Board of Health, on September 7, adopted the following resolution: "Resolved, That the board of health does hereby most respectfully ask that the physicians of Bay City shall always inspect a case of contagious disease before asking the health officer to remove the sign or disinfect the house, and that the health officer, before removing the sign, ascertain whether the physician has carried out the import of this resolution." The necessity for this action is that frequently the attending physician in a contagious disease case will order the warning sign removed from the house before the danger period has passed.

MORTALITY FOR AUGUST.

There were 2954 deaths in Michigan reported to the department of state during August. This number corresponds to a death-rate of 14.5 per thousand, as compared with a rate of 12.4 for the preceding month, and a rate of 13.8 for August, 1899. The mortality of the State of Indiana for August was 14.3 per thousand, or practically the same as that of Michigan. The number of deaths returned for August is 455 more than for July. There were 811 deaths of infants under 1 year of age, an increase of 250 over July; 268 deaths of children aged 1 to 4 years inclusive; and 630 deaths of persons aged 65 years and over. Important causes of death were as follows: Pulmonary tuberculosis, 122; other forms of tuberculosis, 51; typhoid fever, 68; diphtheria and croup, 19; measles, 6; whooping cough 17; scarlet fever, 15; pneumonia, 80; diarrheal diseases of infants under five years, 586; cerebrospinal meningitis, 37; cancer, 121; accidents and violence, 187. As compared with the preceding month, a slight increase is noted in the number of deaths from diphtheria and croup, a considerable increase in the fatality of typhoid fever, and a large increase—308 deaths—in the mortality from diarrheal diseases of children. This latter increase is characteristic of the annual "slaughter of the innocents," chiefly from "cholera infantum," a type of disease which is entirely or largely preventable by proper sanitary and hygienic methods.

MINNESOTA.

County Physician Ancker has named Dr. James S. Gilfillan, of St. Paul, as assistant county physician.

Major Thomas C. Clark, M.D., of Stillwater, was married at Decorah, Iowa, to Miss Mary I. Breckenridge, on Sept. 11.

The foundations of Asbury Hospital, Minneapolis, will be completed by October 1, at a cost of $10,000, which is already in hand. The directors already have $25,000 of the $50,000 required to complete the building.

The Hospital Committee of the Board of Charities and Corrections has been notified that $23,000 of the $30,000 required have been raised toward the quarantine station at St. Louis Park, and the cottages for the Minneapolis City Hospital.

Dr. Gustav A. Renz, as president of the Ramsey County Medical Society, has filed charges against four physicians in St. Paul, that they advertise fictitious cures. The accused are cited to appear before the State Board of Medical Examiners, on October 11.

MISSOURI.

Dr. William E. Cass, of St. Louis, acting assistant-surgeon in the army, has been ordered to report for duty to the chief surgeon at San Francisco.

The board of managers of the State Insane Asylum at Nevada has re-elected Dr. Joseph F. Robinson superintendent of the asylum for four years.

Dr. Albert Steinrauf, of St. Charles, has been notified of his appointment as acting assistant-surgeon in the army, and has received orders to report at San Francisco for assignment to duty.

Dr. I. N. Love, of St. Louis, has removed to New York City to engage in the practice of his profession. He has accepted a position in the department of internal medicine and diagnosis in the Post-Graduate Medical School and Hospital. His address is Hotel Iroquois, 49 West Forty-fourth street.

The death-rate of Kansas City is increasing. In 1899 it was 10.9 per thousand, and in 1889, 13.6. During 1899 2662 deaths occurred, 1752 adults and 910 children. Of these 507 were under 1 year of age. Violence was the cause of 128 deaths. The maximum of deaths occurred in April, 313, and the minimum, 157, in November.

MONTANA.

Dr. William H. Campbell, of Livingston, has moved to Kalispell.

Dr. Josiah R. Hammond, of Butte, will return from Europe and resume practice early in October.

Dr. Benjamin C. Brooke, of Helena, was so unfortunate as to step into an open hatchway in Butte on August 30, while in attendance on the meeting of the Interstate Medical Association. He fell eight feet and broke three ribs.

NEBRASKA.

Dr. August F. Jonas, of Omaha, has returned recently from the International Medical Congress.

Dr. Fred W. Lester, who left David City for his old home in Illinois, has returned to David City and resumed practice.

Dr. Jay Ryan, a recent graduate of Creighton Medical College, has been appointed physician for the poor of Douglas County.

Dr. Victor H. Coffman, of Omaha, has been forced to spend some time in the mountains on account of illness. He has returned much improved.

The governor has been formally requested by the Omaha Medical Society to reappoint Dr. Benjamin F. Crummer, of Omaha, on the State Board of Health.

NEW JERSEY.

Dr. Grant Sparks has been elected physician to the Gloucester County Almshouse.

Dr. William S. Jones, of Camden, has been re-elected county physician for a term of three years.

Dr. Rolland Tomlinson, of Plainfield, [illegible] ated [illegible] practice with his father, Dr. T. H. Tomli

The budget for Atlantic City has been issued for the coming year, and among other items approved by the council are improvements for hospital, $10,000; sanitary improvements, $24,500.

The sanitary condition of Atlantic City at the present time is said to be bad, and this is especially due to the defective sewerage system and the lack of attention from the board of health.

NEW YORK.

Dr. C. C. Lytle has located for practice in Syracuse.

Dr. Richard Ellis, of Utica, has moved to New York and opened an office at 147 East Twenty-first street.

Dr. Edmund C. Body, city physician of Rochester, was married on September 4, to Miss Jessie Cameron Cogswell, also of Rochester.

Dr. Charles E. White, of Waterville, has moved to Rome, where, with his wife, who is also a physician, he will continue in practice.

Dr. J. D. Shipman, who, after his graduation, studied for a year in Germany, and then served for another year as house physician at St. Joseph's Hospital, Syracuse, has located at Amsterdam.

The health report of Rochester for August shows 220 deaths, 269 births and 111 marriages for the month. The death-rate was 15.94 per thousand, based on the census figures of 162,435. Of the decedents 54 were under 1 year of age; 14 between 1 and 5 years, and 82 over 60 years. The chief causes of death were: Contagious diseases, 25; cholera infantum, 22; apoplexy, 16; dysentery, 13; heart disease, 19; violence, 13. There were 17 more deaths than in August, 1899.

St. Peter's Hospital Staff, at Albany, was reorganized September 3, and the following physicians chosen: Consulting surgeon, Dr. Patrick J. Keegan; consulting physician, Dr. T. Kirkland Perry; attending physicians, Drs. Henry Hun, Howard Van Rensselaer, Andrew MacFarlane; attending surgeons, Drs. Samuel R. Morrow, William Hailes, Jr., John V. Hennessey; ophthalmic surgeons, Drs. George S. Munson, Theodore F. C. Van Allen; abdominal surgeon and gynecologist, Dr. John B. Harvie; nose and throat, Dr. Clement F. Theisen; obstetrician, Dr. John F. Reilly, of Rensselaer; pathologist, Dr. George Blumer; house staff; physician, Dr. Waldron A. Stearns; surgeon, Dr. W. Gansevoort Mack.

Buffalo.

Dr. Lucien Howe is in Europe.

Major Charles K. Winne has been detailed as post-surgeon at Fort Porter.

Dr. Roswell Park has been appointed medical director of the Pan-American Exposition. With the appointment of one so distinguished in his profession, this department of the exposition should respond to all demands made upon it.

The ordinance controlling the grain-drying industry has been passed by the city council. This will afford a great relief to the city because at times the stench arising from the wet, fermenting grain has been almost unendurable. Many cases of disease were caused and aggravated by this nuisance.

The Consumption Hospital, a building erected especially for tuberculous patients, which was recently totally destroyed by fire, is soon to be rebuilt. It will be situated on the outskirts of the city, on high and dry grounds, and being a department of the Erie County Hospital it has the advantage of a fine herd and many acres of good farm land. The hospital did and will do exceedingly good work in this field, because as a rule the patients coming to it are from the lower strata of life, very poor and ignorant. They, therefore, are not only benefited themselves by their hygienic environment and good treatment, but their relatives are protected by their separation from an aggravating source of infection.

Dr. Jacob Otto has been appointed assistant-superintendent of the Exhibit on Sanitation, with the collaboration of the health commission. He has addressed a circular letter to every health board in North and South America asking for its co-operation. The exhibits will be classed under two heads, the first, covering the proceedings pursued by the different boards of health in all matters pertaining to sanitation. This exhibit will be composed of the blank forms used by each board of health and of photographs of their public works devoted to sanitation, and of models of special features in municipal sanitation used in chemical and bacteriological work and disinfection. Models will be presented graphically illustrating the contamination of wells, practical tenement houses in comparison with insanitary rookeries. The second section will show the sanitary appliances used in disinfection, ventilation and heating, and will include models of plants in use by municipalities for supplying water, for the disposal of sewage, garbage, etc.

New York City.

Dr. Lucy M. Hall-Brown, of Brooklyn, has returned after a two-months' trip to Europe.

Dr. Henry E. Hale, Jr., was married September 12, to Miss Frances Hibbard Ward, of Chicago.

Dr. Charles F. Meinhardt, of St. Mark's Hospital, is spending his vacation in Duluth, Minn.

Dr. George F. Shrady has returned after a short trip to Europe. While there he went to Glasgow to look over the plague situation.

One of the New York hospitals has in operation a camera which records minutely, after the manner of a biograph, the actions of patients. These are reproduced on a screen, and physicians and students thereby enabled to study closely the manifestations of such diseases as locomotor ataxia, etc.

Michael C. Murphy, president of the health department, has given out plans for the new bacteriological laboratory to be constructed especially for the study of the bubonic plague germs. It will be erected near the Willard Parker Hospital, on East Sixteenth street, will be built of steel, with asbestos walls, and will have neither chimney nor windows.

The death is announced of Samuel Bradhurst Schieffelin at his home in New York City, aged 89 years. On the retirement of his father from business in 1849, Mr. Schieffelin and his brother managed the extensive drug business of Schieffelin & Co. He remained at the head of the company until 1865, when he was succeeded by his son. Since his retirement, he devoted himself to historical and religious study and writing.

OHIO.

The new pathological laboratory at Charity Hospital, Cleveland, is now completed and ready for opening.

Dr. James E. Murray, of Middletown, has disposed of his practice to Dr. L. S. Krauss, of West Carrollton.

The fall term of the Ohio Medical College, and Starling Medical College, at Columbus, opened September 12.

Dr. Albert F. Shiebley, of Glandorf, who has been studying in Germany for several months, has returned and will locate in Ottawa.

Dr. B. P. Hall, of Richwood, has been awarded the care of the sick and the furnishing of medicines to the poor of Claiborne township.

Dr. George W. Crile, of Cleveland, has been appointed to the chair of clinical surgery in the medical department of Western Reserve University.

The first fine under the Love medical law was imposed in Fulton county, when Dr. Pixley, a physician from Michigan, was arrested and fined $27 and costs.

The first examination under the Love medical law was held at Columbus, by the State Board of Medical Registration and Examination, September 9, 10 and 11. Nine applicants, all medical graduates, took the examination.

PENNSYLVANIA.

The school board of Caernarvon has instituted the use of individual drinking cups for its school children.

Dr. Robert W. Brace, of Blackwood, has been appointed resident physician at the hospital in Westport, Conn.

A mild epidemic of diphtheria now prevails in Carlisle. Fourteen cases have been quarantined by the board of health and four new cases have appeared.

Dr. Thomas S. Anderson and wife, of Carnegie, will soon leave for a six-months' sojourn in Europe. On their return they expect to locate in East End, Pittsburg.

Anthrax has attacked the herd of cattle belonging to William J. Irvin at Centreton, near Woodstown, and 5 out of 10 cattle have died. The state veterinarian now has matters in charge, and is affording protection.

The water board of the city council of Reading, in its recent report, recommends filtration of the water-supply from Antietam dam. On account of vegetable growth this source of water-supply is frequently rendered useless for weeks at a time.

The business men of Erie have demanded of the board of health and city council that a municipal hospital be built forthwith. There are now ten cases of smallpox in the city, and no efforts should be spared to limit and stamp out the disease.

Compulsory Education and Vaccination in Bradford County.—On September 3, Judge Fanning, of the court of quarter sessions of Towanda, Bradford County, filed an opinion in the case of the Commonwealth vs. E. L. Smith, in which the compulsory vaccination and the compulsory education laws were brought into question. The case was one in which Smith, who is a christian scientist, declined to have his son vaccinated and the boy was refused admission to the public schools. He subsequently received instruction at his home from his mother. Smith was fined $2 for non-attendance at school. The judge, in his ruling, stated: "We must conclude from the foregoing that the compulsory education act by its terms did not make it obligatory upon the defendant to obtain a certificate of vaccination. His sole duty prescribed by it was to send his son to school. He did this. The teacher refused the son admission simply because he did not present a certificate. There is nothing in this statute making vaccination mandatory in any case. Neither does it require the child to produce a certificate that it has been successfuly vaccinated or had smallpox. In order to sustain this judgment we must say that the defendant was obliged by the terms of the statute to procure and his son to present a certificate. We can not say this. The defendant made a clear answer to the case of the Commonwealth when he showed that he had sent his son to school until he was denied admission by the teacher. This is a question of the extent of the police powers of the legislature. Perhaps a law making vaccination obligatory in all cases except where the child has had smallpox would be a valid exercise of that power. This is unnecessary to decide. For so far the legislature has not expressly enacted such a law, and we do not feel disposed to hold that it has done so implicitly in order to sustain this judgment."

Philadelphia.

Dr. Andrew J. Downes has returned from Europe..

Dr. W. Barton Hopkins is spending a vacation at Newport.

Dr. E. E. Montgomery has returned from his European trip.

Dr. James M. Anders has returned from his visit to Dr. L. Webster Fox at Kennebunk, Me.

A bequest of $10,000 has been made to the Pennsylvania Hospital by Howard Roberts, who recently died in Paris.

The Home for the Homeless, at 4102 Ogden street, will hereafter be under the management of Dr. Rebecca Moore, assisted by a board of advisers.

Magistrate Kochersperger a few days ago fined a wagon-driver $5 for delaying the ambulance of the German Hospital while it was making a call to receive a patient.

The board of health censured an eclectic physician for not reporting a death from diphtheria promptly, and for allowing the body of the patient to remain near an open window for a day after death.

The Sanatorium Association has completed its twenty-fourth year, and the results show the largest increase over any previous year. The admissions for 73 working days were 180,670 adults and children, comprising 25,655 adults, 20,516 infants, 134.499 children over 2 years of age. Of bathers there were 23,265 boys, 25,591 girls and 4516 infants.

The Jewish Maternity Association has asked an amendment to its charter, and within a short time will make an addition to its equipment by erecting a gynecological ward and operating room. A benefit concert will be given at the Academy of Music, the proceeds of which will be given to the home.

TENNESSEE.

The City Hospital at North Knoxville is nearly completed. It is expected that it will be furnished and equipped to receive patients by January 1.

The new building of the Tennessee Medical College, at Knoxville, will be ready for occupancy before the opening of the college term in October.

Dr. D. M. Saunders, of Woodstock, has been elected superintendent of the Shelby County Emergency Hospital at Memphis.

The Memphis Board of Health has been notified by several southern cities that if the Memphis city council passes the amendment to the health ordinance offered at a recent meeting, which will require that the physicians of Memphis report all of their cases of tuberculosis and typhoid fever, they will follow suit and adopt a similar ordinance.

TEXAS.

Mercy Hospital has been incorporated at Laredo, without capital stock, but with property valued at $6,000.

Dr. E. E. Mansfield, of Wilmer, has been assigned to the Twenty-fifth U. S. Infantry as assistant-surgeon, and has left for San Antonio to join his regiment.

Galveston.

Dr. Hamilton A. West, whose death was announced by the Associated Press as having occurred in the recent tornado, has asked The Journal to state that he and his family are safe and well. Dr. West is actively at work with the Board of Health restoring order from chaos.

Dr. C. P. Wertenbaker, United States Marine-Hospital Service, stationed at New Orleans, has been ordered to Galveston. His instructions are to make an immediate investigation and estimate of the damage done, and the general condition of the inhabitants, and to keep the authorities in Washington in close touch with the situation.

The heroism of Dr. I. M. Cline, United States Weather Observer at Galveston, a member of the Texas State Medical Association, stands out brightly among the many heroic deeds recorded there. At noon he sent out warnings that a disastrous storm was imminent. Three hours later, realizing that an unparalleled storm was approaching, he went through the southern part of the city imploring the people to fly to the center of the island. As the telephone and telegraph systems were then wrecked, he made his way to the telephone station at the bridge west of the city and sent an appeal for aid, just before the cable parted. On his return, after this duty had been performed, he found his house destroyed and his wife and one child dead.

WASHINGTON.

The Deaconess Home at Spokane has let a contract for a $1,000 addition to its main building. This will increase the capacity of the hospital by six beds.

The City Council of Yakima has passed an anti-expectoration ordinance at the instigation of the State Medical Society. A second ordinance prohibits the issuance of burial permits without a certificate of death from a reputable medical practitioner.

WISCONSIN.

Dr. F. W. Watson has succeeded Dr. Timothy L. Harrington in his practice at Antigo.

Dr. Timothy L. Harrington, after five years' practice in Antigo, has moved to Milwaukee.

Dr. Frank Fordyce Newell, of Burlington, was married on September 3 to Miss Marie R. U. Young, at her residence in Chicago.

The supervisors of Milwaukee county [illegible] riat- $100,000 for improvements and additions [illegible] pital at Wauwatosa.

The hospital which the Lutheran synod is erecting at La Crosse, will soon be completed. It will cost in the neighborhood of $60,000.

Dr. Ferdinand M. Schulz, health commissioner of Milwaukee, recommends in his annual report the closing of all wells, the medical control of marriage as a means of lessening hereditary diseases, and the examination of school teachers for tuberculosis. The death-rate of the city was 13.48 per thousand, a little higher than that of the previous year. Of the 3843 deaths, 2065 were males and 1778 females. The deaths under 5 years of age numbered 1541 or 40.1 per cent. of the total mortality.

CANADA.

Whooping-Cough is epidemic at Ottawa.

The profession in British Columbia is contemplating the formation of a provincial medical society.

Several deaths among children in Toronto have been traced to eating ice-cream which had been re-frozen.

Dr. Charles O'Reilly, superintendent of the Toronto General Hospital, has just returned from an extended inspection trip of the hospitals of Winnipeg, St. Paul, Minneapolis, Milwaukee, Chicago and Detroit.

Dr. Lang, of Glasgow, the new professor of chemistry at Toronto University, has been busily engaged re-organizing that department. Dr. W. Lash Miller has been promoted to the position of associate professor of physical chemistry.

At the instance of the Toronto medical health officer, Professor Shuttleworth has made an analysis and inspected the reservoir. As a result he has advised that the city reservoir be immediately cleaned and newly cemented.

An arrangement has been made between the British and United States governments whereby a Marine-Hospital physician will henceforth examine all immigrants leaving the port of Liverpool for Canada. His services will be supplemented by the services of a Canadian physician to be appointed by the railway and steamship companies, with headquarters at Liverpool. Last week three emigrants with favus were refused transit from Montreal to New York by the American inspector.

The toast to the American Medical Association, at the banquet of the Canadian Medical Association, was received with gratifying enthusiasm. Dr. Frederick C. Shattuck, of Boston, responded in a clever and witty speech, saying that if the United States did not soon annex Canada, he hoped that Canada would soon annex the United States. The latter met with a happy approval; for, of course, there is no annexation sentiment in Canada in the former direction.

MARINE-HOSPITAL NOTES.

THE STATUS OF BUBONIC PLAGUE.

With the exception of India, where bubonic plague is prevalent in epidemic form, Rio Janeiro, Brazil, is probably the worst infected place in the world at the present time. Weekly reports to the surgeon-general of the Marine-Hospital Service from the acting asst.-surgeon located in that city show that there are under treatment in hospital between ninety and one-hundred cases, and that from three to five new cases occur each week. Persistent scientific disinfection and quarantine have stamped out the disease in all of the principal places where it has appeared within the last year or two, but constant vigilance is necessary to prevent its introduction and spread in all seaport towns. The viability of the plague bacillus is its chief danger. Epidemics are stamped out, but occasional cases continue to appear and are transported from one place to another, as is evidenced by the recent appearance of plague on a ship in the harbor of Hamburg, also a similar instance on board ship in the harbor of London. Plague was also carried from Syros Island to Constantinople within the past month. The present outbreak in Glasgow, while not yet traced, gives force to the argument that constant vigilance is necessary on the part of all seacoast cities, and that the danger is not past because the epidemic in any particular place has been suppressed.

INOCULATION AGAINST TYPHOID.

In a brief report to the surgeon-general, Dr. Geddings, acting director, hygienic laboratory, M.-H. S., summarizes the status of anti-typhoid inoculation as follows: In an infectious disease so widespread as typhoid fever it is perfectly natural that, since the discovery of its specific organism, efforts should have been made by bacteriologists looking to a means of preventing the disease, or of curing it when established, by means of serum therapy, or by affording an efficient protection against it by means of a "vaccination" such as has been practiced with success in the case of plague by the Haffkine prophylactic. Attention was invited to the subject in 1894, when Hughes and Carter reported favorable results in the treatment of two cases of typhoid fever with the blood-serum of a convalescent. These were followed by reports of a similar nature from Girard, Legrain, Sylvestri, Von Jaksch, Klemperer, Pollak, Weisbecker, Chantemesse and others. All of these observers had used either the serum of convalescents or the blister fluid of typhoid patients until the experiments of Chantemesse, who proceeded in the regular way by immunizing a horse by killed cultures of the typhoid bacillus and using its serum as a remedial agent. Lyonnette brought a horse up to a point of immunity where his serum had an agglutinating power of 1:33,000. Naturally the subject attracted attention in the Hygienic Laboratory of the Marine-Hospital Service and a series of experiments was commenced by P. A. Surgeon E. K. Sprague, then in temporary charge of the laboratory. Beginning in 1897, and continuing more or less regularly until December, 1898, a horse was treated, first with increasing doses of killed cultures of the typhoid bacillus, and later with intravenous injections of a suspension of live cultures of the same bacillus. In December, 1898, the serum of this horse had reached an agglutinating power of 1:250,000. In April, 1899, the agglutinating power of the serum on the typhoid bacillus had risen to 1:500,000. There has been no opportunity of using this serum upon actual cases of typhoid fever, but Sprague, experimenting with guinea-pigs, in two series of experiments, succeeded in preserving animals to whom a lethal dose of the typhoid bacillus had been administered by the use of the serum, while the controls in every case died. The above has been summarized from a very full report by P. A. Surgeon E. K. Sprague. The subject of anti-typhoid inoculation, from this time on, while receiving more or less desultory attention, was only prominently brought to the front again by English reports of inoculation of British troops destined for service in the Indian Empire, where favorable results seem to have been reached. The latest statistics on the subject come from South Africa, favorable conditions having arisen during the siege of Ladysmith, in the Transvaal, for observation on the subject. The following, from the *Journal of Tropical Medicine*, July, 1900, has important bearing on the subject: "Important statistics have at last been made public concerning the probable effects of inoculation against typhoid. The figures relating to the results have been communicated by Dr. A. E. Wright, professor of pathology in the Army Medical School, Netley, and they are founded on the experience gained in Ladysmith during the siege. The number of officers and men under observation numbered 12,234; of these 1705 had been inoculated, leaving 10,529 non-inoculated or non-protected. During the siege 1489 cases of typhoid fever occurred among the non-inoculated and 35 among the inoculated. From these figures it is seen that 1 in 7.07 of the non-inoculated contracted typhoid, whilst only 1 in 48.7 of the inoculated were attacked. The lessened mortality also among the inoculated is marked; for of the non-inoculated persons attacked 329, or 1 in 32, died; while among the protected 8 deaths only occurred, or 1 in 213. Professor Wright remarks that in the returns the 'inoculated' are not definitely specified; inoculations being made to include, in all probability, persons treated by either the anti-typhoid serum or the sterilized vaccine culture, *or even vaccination against smallpox.* We await with interest a full investigation and report on this most important and interesting question, and it is to be hoped that Professor Wright's treatment may be proved to be a real protection."

OTTAWA LETTER.

Canadian Medical Association.

The thirty-third annual meeting of the Canadian Medical Association was held in the Academic Hall of the University of Ottawa, Ottawa, on Sept. 12-14, 1900, under the presidency of Dr. R. W. Powell, of Ottawa, Dr. F. N. G. Starr, of Toronto, acting as secretary.

ELIMINATIVE AND ANTISEPTIC TREATMENT OF TYPHOID FEVER.

Dr. W. B. Thistle, of Toronto University, in contributing this paper, stated that it was now seven years since he introduced this plan of treatment of typhoid fever to the profession. He had never held to the opinion that the eliminative and antiseptic plan could rid such organs as the liver and spleen of the bacilli lodged in them. He held to the opinion that the draining of the intestinal walls following on the action of a purgative such as calomel and mag. sulph. would tend to get rid of some of these bacilli and their toxins in the intestinal walls, but did not claim to effect their exit from the liver, etc. In many instances he thought the treatment had been imperfectly applied without a clear conception of the underlying principle. Under this plan, Dr. Thistle has never had a fatal case of hemorrhage, what hemorrhage occurred having been always very slight. He has also had few perforations. In Toronto this plan of treatment is universally adopted. Statistics at the Toronto General Hospital show, that from 1893 until the present time, there have been 823 cases in that institution with 56 deaths—a mortality of 6.5 per cent. under this plan of treatment.

In discussing the paper, Dr. McPhedran stated that he had watched Dr. Thistle's work from the time of the appearance of his first paper on the subject, but could not agree with all his conclusions. He did not think that it lessened diarrhea, tympanites, fever or delirium. He considered that Dr. Thistle was harboring the idea that purgatives in typhoid was a new discovery with him; this was not so. Twenty-five years ago he gave these for the first ten days at least. In addition to this he used to give carbolic acid and iodin, and in a certain class of cases, he thought he had the exact treatment. Another class would then come along, in which that treatment had no effect whatever. He considered that the general toxemia that existed could not be eliminated through the bowel. It had to be done through the kidneys and skin.

SARCOMA OF THE RIGHT NASAL FOSSA WITH ORBITAL CELLULITIS.

This paper and case was presented by Dr. Perry G. Goldsmith, of Belleville, Ont. The patient was a man of 38 years, a farmer, with an unimportant family and personal history. He consulted the Doctor on August 4, with severe frontal headache. Growths and some bone were removed from the nose. After this the swelling and pain in the eye rapidly increased, so that it was seen to project far forward, downward and outward. The growths in the nasal fossa were curetted and sent to Professor Anderson of the Trinity Medical College Pathological Laboratory, who pronounced them of sarcomatous nature, of small round-cell variety, with the walls of the blood-vessels thin and poorly developed. The discharge from the nostril was of an odor similar to that emanating from cancer of the uterus. Up to ten years ago Bosworth had collected forty of these cases.

Dr. R. A. Reeve, Toronto, stated that a number of years ago he had presented a paper before the Association on the same subject. He directed attention to the importance of examining the nasopharynx in diseases of the orbit. He instanced a similar case to Dr. Goldsmith's. In his case there was little pain, but an examination of the nose revealed the tumor.

PRESIDENT'S ADDRESS.

Dr. R. W. Powell delivered the annual presidential address. He recited a few reminiscences when on former occasions the Canadian Medical Association had met in the Capital City in 1871, 1881, 1889 and 1893. Reference was made to the South African war in order to show the unsatisfactory condition of affairs which permitted other colonial surgeons practicing their profession in that land without hindrance, whilst Canadians were debarred from the same privilege. An earnest and united effort on the part of the profession throughout the entire Dominion of Canada in an endeavor to bring about interprovincial registration, would facilitate matters in the direction of securing these privileges for the Canadian profession in other parts of the British Empire. The hackneyed subject of tuberculosis was lightly touched on; whilst a very important matter relating to the profession, that of a Medical Defense Association, was dealt with at considerable length. Dr. Powell favored the formation of such Association, and later on in the proceedings nominated a committee to look into the question and report on the advisability and practicability of forming a Dominion association of this character.

SOME EXPERIENCES IN THE SOUTH AFRICAN WAR.

Dr. G. S. Ryerson dealt first with the experience gained of modern bullets. The very latest returns show that 936 officers and 11,701 non-commissioned officers and men had been wounded, of whom only 732 have died of wounds received in action, which is ascribed to the aseptic character of the bullet and the prompt attention and antiseptic treatment. Dr. Ryerson then dealt with these wounds, which is familiar to all. Referring to poisoned bullets being used, this was not the truth, as the tarnish or verdigris probably accumulated in transit through the barrel. He also doubted the fact of explosive bullets being used. The Boers made use of thousands of the Martini-Henry, a heavy bullet, which caused great destruction of soft parts, necessitating amputation. There were few amputations in this war; and quoted Kendal Franks, who performed 20 amputations in 2000 cases. Whilst abdominal section in wounds of the abdomen was mainly inadvisable, he saw one case where the results were excellent. He spoke highly of the magnificent work of the R. A. M. C.

Dr. Roddick spoke of the sacrifices of Dr. Ryerson in proceeding to South Africa at his own expense to carry out the work of the Red Cross Association. While in England recently, he stated, he made it his special business to inquire of returning Canadian soldiers as to the hospital management in South Africa, and although he had spoken to many of these, he had failed completely to find a single Canadian who had anything but praise for the hospital arrangements in that country.

OUR RACE AND CONSUMPTION.

Sir James Grant, Ottawa, read a paper on "Our Race and Consumption," which will appear soon in The Journal.

RECOGNITION AND MANAGEMENT OF TABES DORSALIS.

Dr. Allen McLane Hamilton presented a paper on this subject. As an etiological factor, syphilis was not referred to by the early writers on this disease. While some would attempt to divide the symptoms of the disease into the leg and eye types, the writer would consider that to be unwarranted. He considered there was a close resemblance or rather relationship between the different forms of cerebrospinal sclerosis. There was no disease of the nervous system which had drawn forth so many plans of treatment; and little or no good had resulted from any one thing. Most tabetics are favorable subjects for expectant attention; and many derive temporary benefit from some new drug. Looking back over a number of years, he finds that most good has been done where little or no medicine had been given. He has found rest by suspension and persistent cauterization of the back good treatment. In the opinion of the writer, syphilis can not be traced in more than 50 per cent. of the cases. For the arthropathies of the great joints there is little to be done. Perforating ulcer is a rare feature of locomotor ataxia, and most obstinately resists treatment. He has seen three cases of this unusual condition in ataxics; and the ulcer rarely exceeds two to three centimeters in diameter. One authority quotes five cases cured by nerve stretching.

THE PHYSICIAN'S "VASTER EMPIRE."

Dr. John Hunter, of Toronto, dealt with the questions of sanitary science, education, social purity and medical missions. As regards sanitary [illegible] the pu[illegible] of the p was a plea for the broader and freer attainment of principles of sanitary science and their application in the building and construction of our homes, schools, churches, etc. No dwelling-house should be constructed except under the supervision of an architect and a physician versed in sanitary science. Architects have improved wonderfully in the past ten years. Another important question is our educational system—the mental and physical health and development of our school children. The best way to secure physical vigor and high mentality is surely within the province of the physician to grapple with and study. In all forms of social purity and impurity, physicians should speak *ex cathedra* against every form of vice and immorality. The boys and girls of the family should be enlightened as to their sexual proclivities at proper periods, by the fathers and mothers, respectively. In medical missions he referred to the vast field for medical missionary work in foreign countries.

ADDRESS IN SURGERY.

MR. EDMUND OWEN took for his subject, "Tuberculous Lesions From a Clinical Point of View." He stated that he would deal with tuberculous lesions as the surgeon meets them day by day in the hospital ward, in private practice and in the operating theater. He considered the pathologist's thought to be only of the dead tissue. The surgeon sees the human tree during its life, but rarely follows it after death. The student does clinical and pathological work at different times, and he is enabled to follow the case straight from the ward to the laboratory. Study of the fresh specimen is best; for the specimen taken from formalin is no more like the condition than canned salmon is like fresh-run fish. He would not hinder experimental research work; it is absolutely essential. The life of a man is of more value than a sparrow or many guinea-pigs. It would be almost impossible to overestimate the direct value of experimental laboratory work. Strumous and scrofulous are terms devoid of meaning, and we now call tubercle by its proper name. There are three great factors in connection with tuberculosis with which the public must be made acquainted: 1. The disease is communicable, but they must be allowed a little time before they accept this statement and fact. 2. The disease is preventable; this follows almost as a corollary to the first statement. 3. The disease is curable. Years ago the subject of tuberculosis was regarded as well nigh hopeless. Tuberculosis is not necessarily of the intractable nature that it was formerly considered to be. Tuberculous lesions are exactly what they used to be; and Mr. Owen has worked at the largest children's hospital in London, England, for over a quarter of a century. We now take a much more hopeful view of these lesions. One rarely hears now of *vis medicatrix naturæ;* surgery has rendered it superfluous. All have noticed old cases of long-standing hip-joint disease where, in time, the boy actually grows out of his trouble. This is a popular superstition, but like most erratic beliefs, it is founded on a stratum of truth. In children these chronic diseases are always tuberculous. Where chronic abscesses occur it will not do to open and drain, but they must be scraped out, the unhealthy lining destroyed. In the treatment of these diseases the learned surgeon stated that he had failed to find any value whatever in iodoform. It is an irritant and a poison; and it is apt to be septic, as germs can grow on it. Mr. Owen condemned the forcible correction of spinal deformities, and considers that this deformity does not lend itself to operative treatment. There may, perhaps, be a small class of cases where it may eventually be found applicable, as where bone or organized inflammatory deposits press on the cord so that the patient has lost movement of the lower extremities. He considers that the plaster-of-paris jacket must be held responsible for much of the deformity of Pott's disease. He considers that the proper treatment of these cases is rest in the horizontal position, with plenty of good fresh air and sunlight. At the conclusion of his address he was accorded the hearty thanks of the association, on motion by Professor Shepherd, of McGill, seconded by Professor Cameron, of Toronto University.

DR. A. PRIMROSE, of Toronto, described Kocher's method of dealing with tuberculous knee-joint, and recited the histories of a few cases, in which he had obtained excellent results.

RECENT PATHOLOGIC STUDIES OF THE BLOOD.

DR. L. H. WARNER, Brooklyn, premises his statements by asserting that there is a necessity for experiments for the progress of pathology. His experimental researches were directed along three lines of inquiry, viz., experiments, observation and individual observation at clinics in hospitals. The examination of the blood in most case is of more importance than the examination of the urine. Dr. Warner gave the formula of a new staining solution which he had found very practicable: The blood specimen should be prepared in the regular manner. The slides are heated in a hot oven to 98 degrees. Immerse it for one minute in a 1 per cent. aqueous solution of methylene blue, washing in water, then in 1 per cent. alcoholic solution of eosin, washing again with water, and then in a 1 per cent. solution of bismarck brown.

SOME EXPERIENCES IN THE TREATMENT OF HERNIA.

DR. F. J. SHEPHERD, Montreal, said that it is now some twenty years since surgeons began to do these operations by the open method. Older methods in vogue before that date were touched upon and described. He spoke of a large hernia where the man could not put on his trousers. The methods of operation are almost as numerous as surgeons, but there are certain general principles underlying all operations: 1, the necessity for excision or obliteration of the sac; 2, closure of canal, and 3, union by first intention. Some also hold that alteration in the direction of the canal is necessary. Bassini's is the operation performed by Dr. Shepherd, although not always successful. He has used all kinds of sutures. Absorbable sutures are the best and, if antiseptic, are to be preferred. A suture that will last for three weeks is all that is wanted. He has used chromicized catgut; he has used it now for some time. He never washes out the wound, and thinks it better to dissect out the sac with the knife than to tear it with the fingers. He never uses a drain. For the last two years he has used rubber gloves in all his surgical work on the abdomen, and he considers his results have been better since he used them. In these operations the mortality is practically nil. Operations on children are now our most successful cases. Formerly they were not advised except in strangulated cases.

In discussing this paper and the cases recited, Dr. A. Lapthorn Smith stated that his experience lay mostly in ventral and umbilical herniæ, some of them being so large as to require twenty stitches. During the past two years he has abandoned silk and resorted to chromicized catgut, which he always prepares himself.

Dr. Shepherd, in replying, said if there was a little oozing in the wound he introduces between the edges of the wound a probe, and lets out the accumulated serum, and he finds that this is quite efficacious, as by this method he minimizes the chance of any germs entering.

SYPHILITIC GUMMATA OF THE SPINAL CORD SUCCESSFULLY TREATED BY ENORMOUS DOSES OF IODID OF POTASH.

DR. F. W. CAMPBELL, of Montreal, said the patient was a highly neurotic individual, and some time before had suffered from insomnia of an aggravated character. Retention of urine and loss of power in the lower limbs were noted. The patellar reflex was about normal. The loss of power in the lower limbs was absolute. The pulse varied from 80 to 96; the temperature never above 99. The stomach remained in fairly good condition all the time. A consultant from New York was brought in and a diagnosis was established of tumor of the spinal cord, situated about the first lumbar vertebra, which might be sarcomatous or syphilitic. The advice of the consultant was to give 500 grains of iodid of potash per day, at first commencing with a dram three times a day. Dr. Campbell recited the daily history of the patient while getting under the large dose and its gradual withdrawal. The patient is alive to-day and in good health, having recovered complete control of his lower extremities.

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DILATATION AND PROLAPSE OF THE STOMACH.

Professor McPhedran, of Toronto University, dealt principally with prolapse. This condition rarely occurs alone, but is associated with prolapse of other abdominal organs. There is generally present as well some degree of dilatation; and the abdomen may be prominent or flat, or even retracted. He recited the case of a man aged 51 years, a manufacturer, who had been ailing for two or three years. The stomach was below the umbilicus. He was directed to massage the abdomen very thoroughly and to practice abdominal gymnastics. Through this treatment, combined with dietetics, he has been restored to health and is able to resume business. Another case was of a woman, aged 35 years, who had been the subject of recurrent attacks of vomiting for two years; massage and abdominal gymnastics ordered with satisfactory results. In concluding, Dr. McPhedran spoke of the benefits of a change of scene in treating these cases.

Dr. B. E. McKenzie read a paper on "Physical Training; Its Range and Usefulness in Therapeutics." It embraced the results of his observations for thirteen years past, and was ample justification of the benefits derived from gymnastics in the correction of lateral curvature, clubfoot, etc. He had found physical training also especially valuable in hysteria and chorea.

INTERPROVINCIAL REGISTRATION.

Dr. T. G. Roddick read a report of the committee having this matter in hand. A new feature was that allowing of representation on the proposed Dominion Council of homeopaths, as, according to the law of Ontario, these had their vested rights, and so must have similar interest in any Dominion Council. The homeopaths then will be allowed three representatives, which will be equivalent to the representation from any one province of the Dominion. Their term of office will be four years. This will not, however, be inserted in the bill as such, but will appear under "any other school of medicine having legal recognition throughout Canada," as the British Medical Council would not recognize any such body. Dr. Roddick stated that the bill would be introduced at the next session of parliament, and that the respective members of the committee must bestir themselves before their respective provincial parliaments, as these must sanction the measure before it could be finally acted upon by the Dominion parliament.

CEREBRAL ABSCESS.

Dr. James Stewart reported two interesting cases of abscess of the brain, situated in the temporosphenoidal lobe, and referred to the unusual existing aphasia, which was present in both of these cases, viz., simple inability to name objects. The first case occurred in a young man of 22 years, who had otitis media following an attack of influenza. Some six weeks afterward an abscess formed. The abscess was diagnosed as confined to this area simply on account of the peculiar aphasia, the simple inability to give the name of a pen when that object was presented to him. The patient was operated on by Professor Bell, who secured two ounces of pus. Meningitis, however, set in and the patient succumbed. The second case was a girl of 21 or 22 years. She had had ear trouble for a great many years, with very severe pain at times. She, too, had difficulty in naming objects, and she could not name any object whatever finally. She died suddenly a few hours before the operation was to be performed. On post-mortem two abscesses were found, one skirting the upper border of the lobe and the other about the center of its substance.

GANGRENE OF THE LEG FOLLOWING TYPHOID FEVER.

Dr. H. H. Chown, Winnipeg, reported two cases of gangrene following an attack of typhoid fever, which had recently come under his observation. In the first case the patient had the classical symptoms of typhoid. Great pain set in in the calf of the leg, with collapse, while the limb was cold and bloodless. Cutaneous sensibility was lost over the leg. The third day after the complication set in the part involved included the lower third of the leg on inner side and lower half on outer. Operation was performed at upper and middle third of femur. Patient stood the operation well. The temperature before the operation was 102.6; pulse, 120. On the following day the temperature was normal and the pulse 110. On the tenth day the flaps were united. There was a rise of temperature a few days later—a relapse, with hypostatic congestion of the lungs. On the fifth day hemorrhage of the bowels. The patient is now a picture of health, weighing 200 pounds. The second was a somewhat similar case, in which the blood reacted early and promptly to the Widal test. The gangrene began in the first case on the eleventh day of the disease; in the second, on the ninth. Keen reports gangrene on the fourteenth day. The gangrene in the second case extended to the upper and middle third of leg. The leg was amputated and prompt union took place throughout.

Dr. R. B. Nevitt, Toronto, mentioned a similar case coming under his observation during the past summer. Here gangrene occurred about the third week of the fever; patient was seen about a week or ten days afterward. Amputation was performed through the middle third of the femur. He also referred to a case of gangrene of the arm following an attack of pneumonia, recently observed by him.

NOTES ON ATROPIN.

Dr. R. D. Rudolf, Toronto, read a paper with the above title, illustrating by means of a chart the action of the drug on animals and inferences drawn therefrom of its therapeutic uses. He finds that the drug directly stimulates the heart, and thus the blood-pressure is markedly raised. He considered that the maximum single dose, as laid down by Witherstine, of 1/20 of a grain is too large, unless used as an antidote; we ought never to give more than 1/100 of a grain of atropin sulphate at one time, except in emergencies. He also referred to its action in catarrhal pneumonias of children, and its employment before anesthesia to ward off danger.

Dr. A. D. Blackader considered, however, that strychnin, and not atropin, was the most powerful heart tonic we possessed. He thought that late experiments would throw doubt upon atropin being a direct stimulant to the heart muscle; and he thought it questionable to administer a drug, when we wanted to stimulate the heart's action, that would paralyze nerve endings.

LANTERN SLIDE DEMONSTRATION OF SKIN DISEASES.

Dr. George H. Fox, New York, conducted this demonstration, which the members of the association appreciated most highly. The great majority of the skin lesions shown were of syphilitic origin and, as they appeared on the canvas, Dr. Fox described the histories of the cases. One in particular attracted attention, from the disfigurement of the nose and face—a huge mass of excrescences, which Dr. Fox was able to get rid of in the course of two or three months, leaving only a slight superficial scar. He laid down a timely word of caution in treating these conditions: that when the patient was run down and emaciated through large doses of mercury or iodid of potash, not to keep on pushing these drugs, but desist for a period and endeavor to build up the patient's general condition. Then return to the specific treatment, and the results would be found to be more material.

Dr. F. J. Shepherd showed a case, a boy of 16, who, at the age of 6, sustained a severe cutting of the nerves of the brachial plexus, below the cords of the plexus. At that time, ten years ago, Dr. Shepherd dissected out each nerve and united their respective ends by suture. All did well, with the exception of the musculospiral, and as a consequence the lad has very little control over the extensors of the fore-arm.

Dr. George H. Burnham's method of treating syphilitic and other diseases of the eye is described in the title of his paper, "The Successful Treatment of Two Important Cases of Disease of the Eyes by the Combined Methods of Mercury and Iodid of Potash Internally and Pilocarpin Hypodermically." No such result follows in other plans of treatment, and with this a permanent curative result is obtained. The treatment has a wide application.

MENTAL SANITATION.

DR. R. W. BRUCE SMITH, physician to the Brockville Asylum for the Insane, contributed a paper with the above title. It was a plea for prophylaxis in insanity, and he thinks that much would be accomplished in this direction in the twentieth century. He stated that insanity was on the increase in Canada, and thinks it can be duly ascribed to the fact that there have been no preventive measures employed. In order to accomplish good in this direction we must seek either to lessen the demands on, or to strengthen the resisting power of, the brain. He condemns intermarriages in families and also among those of a deranged mentality, and as 50 per cent. of the cases of insanity were hereditary, the descendants of these should be careful in contracting marriage ties. He referred to a portion of one county in Ontario alone where indiscriminate marriage and intermarriage has become most fruitful, and he has seen several members of one family from that locality inmates of the same institution at the same time. He considers that the day may yet dawn when we will give the same attention to the rearing of children as we now give to the breeding of horses. Speaking of farm life and the tendency it has to melancholy, he thought this class of the community should receive education in participating more in the enjoyments of life, and not continue to rot in domesticity. An upheaval in the sentiment and surroundings of the rural homes would work wonders in prophylactic principles.

The following officers were elected: President, H. H. Chown, Winnipeg; treasurer, H. B. Small, Ottawa; general secretary, F. N. G. Starr, Toronto. Place of meeting in 1901, Winnipeg.

Book Notices.

ANNUAL AND ANALYTICAL CYCLOPEDIA OF PRACTICAL MEDICINE. By Charles E. de M. Sajous, M. D., and One Hundred Associate Editors, assisted by Corresponding Editors, Collaborators and Correspondents, illustrated with Chromo-Lithographs, Engravings and Maps. Vol. V. Philadelphia, New York, Chicago: The F. A. Davis Company, Publishers. 1900.

Vol. V. of Sajous' Annual covers all subjects between "Methyl-Blue" and "Rabies." When it is said that this one is up to the high standard of excellence of the former volumes little further need be said. It is the most important and most valuable in the series, including as it does the specialties Laryngology, Ophthalmology, Otology, Neurology, Obstetrics, Pediatrics, and Orthopedic Surgery. It would be invidious to select any of the articles for special criticism or praise, for all are good. Excellent judgment has been exhibited on the part of the editor in assigning space for the various subjects, the amount allotted for the important ones being liberal, and the less important ones do not take more than their value calls for. The contributors are all specialists in the subjects on which they write and consequently all the articles are scientific and reliable, and bring their subject-matter up to date.

A MANUAL OF CHEMISTRY. INORGANIC AND ORGANIC. With an Introduction to the Study of Chemistry. By Arthur P. Luff, M.D., B.Sc.; F.R.C.P.; F.I.C., Physician to the Out-Patients in St. Mary's Hospital; and Frederick James M. Page, B.Sc., F.I.C., Assistant to the Royal School of Mines. Illustrated with 40 Engravings. Cloth, pp. 541. Price, $1.50. London, Paris, New York and Melbourne: Cassel & Co. 1900.

This is one of the standard manuals in Great Britain, and is the work recommended by the *Lancet* as the best text-book on the subject for the student. This revised edition is thoroughly up-to-date, the subject-matter is presented in a very convenient form and does not terrify the student by its compass. While we do not say that it excels some American works, it certainly has merits and advantages, and probably is one of the very best works of its size.

A MANUAL OF CLINICAL DIAGNOSIS BY MEANS OF MICROSCOPIC AND CHEMICAL METHODS, for Students, Hospital Physicians, and Practitioners. By Charles E. Simon. M. D., late Assistant Resident Physician, Johns Hopkins Hospital, Baltimore. Third Edition, Thoroughly Revised. Illustrated with 136 Engravings and 18 Plates in Colors. Cloth. Pp. 558. Price, $3.50 net. Philadelphia and New York: Lea Brothers & Co. 1900.

Amongst the various works on the clinical diagnosis the present holds a creditable place. The author in this edition has revised the subjects throughout and added much new matter. It is a work well suited to the needs of general practitioners, and it has certainly met with favor among them. About one-half of the book is given to urinary examination; it therefore forms a very respectable treatise on the subject by itself. The illustrations are good and we see few things in the author's statements to which we could even suggest a criticism or take exception. He accepts in full apparently the bacilli of Sanarelli as a cause of yellow fever, a point on which many competent authorities are not fully prepared to agree. One or two other minor matters of this kind may possibly be found on reading the book, but it is in many ways fully deserving the favor it has received.

A MANUAL OF PERSONAL HYGIENE. Edited by Walter L. Pyle, A.M., M.D., Assistant Surgeon to Wills Eye Hospital, Philadelphia. Contributors, J. W. Courtney, M.D.; George Howard Fox, M.D.; E. Fletcher Ingals, M.D.; Walter L. Pyle, M.D.; B. Alexander Randall, M. D.; G. N. Stewart, M.D.; and Charles G. Stockton, M.D. Illustrated. Cloth. Pp. 343. Price, $1.50. Philadelphia: W. B. Saunders & Co. 1900.

There are plenty of health manuals in popular literature and books devoted to telling the layman what he must do to care for himself hygienically; many of these are simply embellishments of fads which their authors aim to introduce, others have more or less merit; but there are not very many that the physician can unequivocally recommend. The present volume is evidently intended to make up for deficiency in the literature of this kind, and Dr. Pyle and his collaborators have certainly produced a work that gives the facts in such a form as to be readily appreciated even by the non-medical reader and states these without any admixture of fiction and misdirection. In looking over the work we find very little in it to criticize and very much to commend. It does not exaggerate, and can be referred to as fairly conservative in its statements and, as far as we have been able to see, well up with the data of modern scientific medicine. The illustrations are fairly numerous and certainly a help to the text. The work is one that the physician can recommend to his patients, as it does not overstep the limits in giving information that the layman ought to know.

Deaths and Obituaries.

J. LANGDON SULLIVAN, M.D., of Malden, Mass, died suddenly of heart disease at his summer home in Ashfield, September 5, aged 73 years. He was a native of New Hampshire, a graduate of Harvard Medical School in 1849, a member of the Massachusetts Medical Society and THE AMERICAN MEDICAL ASSOCIATION and had practiced continuously in Malden for fifty-one years.

BENJAMIN HARRISON, M.D., died September 11, near Millwood, Clarke County, Virginia, aged 41 years, of typhoid fever. He was graduated from the University of Virginia, medical department, at Charlottesville, in 1883. After practicing in Clarke County he went to Richmond, where he enjoyed a large practice and was physician to the state penitentiary.

FREDERICK A. MEYER, M.D., died from apoplexy, August 31, at his home in Portland, Ore., aged 61 years. He was born in Breman, and received his degree from the University of Heidelberg in 1860. He had lived for many years in Portland, was for a time city physician, and for eighteen years has been the editor of the *Staats Zeitung*.

ANTHONY B. HANNUM, M.D., died September 1, at Hines, Ala., aged 89 years. He was a native of Kentucky, graduated in 1860 at the University of Nashville, medical department, went to Western Texas and then moved to Alabama, where he practiced for many years.

Dr. Hunter McGuire, of Richmond, Va., died September 19. A more extended notice will be given in our next issue.

Samuel F. Gilbert, M.D., died from dysentery at his home in Elysburg, Pa., August 30, aged 55 years. He was graduated from the department of medicine of the University of Pennsylvania in 1872, and had practiced in Elysburg for nearly twenty-five years.

Dennis Dowling Mulcahy, M.D., died in Newark, N. J., September 11, aged 53 years. He was a Fenian agitator imprisoned in England in the latter part of the 60s and in 1872 he was graduated from the College of Physicians and Surgeons, New York. He had been in failing health for some time.

A. Clarke Emmett, M.D., of Bluff City, Tenn., died at that place, August 30, as the result of a recent stroke of paralysis, aged 57 years. He was a graduate of the College of Physicians and Surgeons, Baltimore, in 1875.

James F. McElroy, M.D., died suddenly September 2, at Bowling Green, Ky. He was graduated from Jefferson Medical College, Philadelphia, in 1866, and had practiced for many years in Warren County.

Walter H. Zink, M.D., died at Branford, Conn., August 27, after a long illness from cancer of the stomach, at the age of 59 years. He was a graduate from the University of Würzburg, in 1862.

John B. Sawyer, M.D., was one of the victims of the storm at Galveston, Tex., last week. He was a graduate of the University of Nashville, medical department, in the class of 1873.

Percy L. Hoover, M.D., died at his home in Mahaffey, Pa., August 25, from Bright's disease, aged 29 years. He was a graduate of Jefferson Medical College, Philadelphia, in 1895.

John L. Barrett, M.D., died suddenly at his residence in Binghamton, N. Y., August 27, at the age of 55 years. He was a graduate of Toledo Medical College, in the class of 1887.

Hubbard K. Burrows, M.D., a graduate of the Kentucky School of Medicine, Louisville, in 1888, died at his home, Box Elder, Tex., September 6.

John F. Ryan, M.D., died suddenly at his home in Roxbury, Mass., September 2. He was a graduate of Tufts College Medical School in 1896.

DEATHS ABROAD.

Pierce Adolphus Simpson, M.A., M.D., died at Auchengrange, Lochwinnoch, Scotland, aged 63 years. He was for many years lecturer on medical jurisprudence at Anderson's College, Glasgow, and later professor of forensic medicine in the University of Glasgow. He was also editor of the *Glasgow Medical Journal.*

Gustav Fraenkel, M.D., died at Breslau, Germany, July 29, aged 68 years.

Miscellany.

Inoculation Against Typhoid.—The government of India, considering the good results obtained from the protective inoculation against typhoid in the British Army, has issued orders to resume measures toward the inoculation of the soldiers entering the army of that country.

The Hospital-Ship "Maine."—This hospital-ship, equipped and maintained by Americans and in charge of American physicians and nurses has made two trips to South Africa. At Cape Town and Durban it received both British and Boer wounded to the number of 354.

Increase in Cancers.—C. Maeder calls attention to the constant increase in cancer shown by the statistics in Prussia, Saxony and Baden. The increase is out of proportion to the natural, apparent increase that would follow the lower death-rate from other diseases. Evidently, he adds in his article in the *Zeitschr. f. Hyg.*, xxxiii, 2, the causal agent is becoming more widely diffused or people are becoming less resistant.

Inoculation Against Enteric Fever.—The late Sir William Stokes, in a letter dated August 2, to the *British Medical Journal* from South Africa, stated that in bad cases of hemorrhage, transfusion of a saline solution at 100 F. either into subcutaneous tissue over the abdomen or into the cephalic veins was employed with good results. Careful records were being kept of cases inoculated and not inoculated against enteric fever. He said that it was yet impossible to give a decided opinion on the adequacy of its protection. Where inoculated cases contracted the disease, the type was as a rule milder. "Unfortunately those who had been inoculated had unbounded confidence in its efficacy, and consequently did not take as many precautions against contracting the disease as they should."

Societies.

Coming Meetings.

American Electro-Therapeutic Association, New York City, Sept. 25-27.

American Public Health Association, Indianapolis, Ind., Oct. 22-26.

Golden Belt Medical Society, Enterprise, Kan., Oct. 4.

Idaho State Medical Society, Boise, Oct. 4-5.

Utah State Medical Society, Salt Lake City, Oct. 4-5.

Wyoming State Medical Society, Cheyenne, Oct. 9-10.

Mississippi Valley Medical Association, Asheville, N. C., Oct. 9-11.

Iowa State Association of Railway Surgeons, Des Moines, Oct. 11-12.

Vermont State Medical Society, Rutland, Oct. 11-12.

Tri-State Medical Society of Alabama, Georgia and Tennessee, Chattanooga, Tenn., Oct. 11-13.

New York State Medical Association, New York City, Oct. 16-18.

Medical Society of Virginia, Charlottesville, Oct. 23.

The Jackson County (Ohio) Medical Society held its first fall meeting, September 11, at Jackson, President Dr. Benjamin F. Kitchen, of Wellston, in the chair.

The Jasper County (Mo.) Medical Society met at Carthage, September 4, for its regular monthly session. Dr. Robert S. Kelso, of Joplin presented a paper.

The Glens Falls (N. Y.) Medical and Surgical Society held its regular monthly meeting September 6, at which an interesting surgical case was reported by Dr. William J. Hunt.

The Hawkeye Medical Society met at Perry, Iowa, and listened to papers by Drs. Oscar W. Lowery, of Grand Junction; John B. Conly, of Woodward, and Frances L. Rogers, of Perry.

The Butler County (Ohio) Medical Society met at Hamilton, September 5. Dr. Frank J. George read a paper on "Scarlet Fever," and Dr. Mark Millikin, of Hamilton, made a practical demonstration of "Intestinal Anastomoses."

The St. Joseph (Mo.) Medical Society held its third annual session, September 11. A paper was read by Dr. Charles H. Wallace, on "Hernia," and Dr. John M. Bell opened the discussion on "Arteriosclerosis."

The College of Physicians and Surgeons, Indianapolis, opened its term on September 20. The changes in the faculty are as follows: Dr. A. J. Banker, of Columbus, professor of obstetrics; Dr. Conrad W. Marxer, lecturer on obstetrics; Dr. John T. Scott, professor of histology; Dr. John F. Benham, professor of chemistry and toxicology; Dr. Harvey Moore, clinical lecturer on genito-urinary diseases, and Prof. R. H. Richards, lecturer on histology.

The Physicians' Protective Association assembled at the Hotel Cadillac, Detroit, Mich., Sept. 4, for its annual meeting and elected the following officers: Dr. Guy L. Keifer, president; Dr. David L. Walmsley, vice-president; and Dr. Augustus W. Ives, secretary.

The Detroit (Mich.) Medical Society and Library Association resumed its weekly meetings, September 10. Dr. Fred. Grover, of Fraser, read the paper of the evening on "The Antiseptic and Antipyretic Treatment of Typhoid Fever."

The Fresno County (Cal.) Medical Society held a meeting September 4. Dr. Thomas M. Hayden read a paper on "Tuberculosis," and a committee was appointed to arrange for the meeting of the Valley Medical Society in Visalia, October 12.

The Chattanooga (Tenn.) Medical Society held a meeting, August 31, at which the physicians and trustees of Erlanger Hospital were present by invitation, to discuss ways and means for carrying on the work of the hospital.

The Denton County (Tex.) Medical Society met in the county court-room, Denton, September 4. The untoward results of quinin were discussed. It was decided that hereafter the society meetings should be held every two months.

The La Crosse County (Wis.) Medical Society held a meeting in La Crosse, September 5. Dr. John A. L. Bradfield presented the paper of the evening on "Diseases and Injuries of the Cornea and Iris," and the discussion was opened by Dr. Mulford.

The Hartford (Conn.) Medical Society held an informal meeting September 3, at which Dr. Joseph E. Root presented a report of his trip abroad, with especial reference to the courtesies extended to him at the meeting of the British Medical Association.

The Kankakee Valley District Medical Society, at its session at Hammond, Ind., September 11, elected Dr. Thompson, of Winamac, president; Dr. James T. Clark, of Hammond, vice-president; Dr. Nelson W. Cady, of Logansport, secretary, and Dr. William Kelsey, of Monterey, treasurer.

The Augusta (Ga.) Medical Society met on August 28, Dr. W. Clifton Lyle, read a paper on "Typhoid Fever," and Theodore E. Oertel exhibited several pathological specimens. The society began its library by subscribing to a number of medical journals.

The Summit County (Ohio) Medical Society held its regular meeting at Akron, September 4. After a discussion of the paper on "Hysteria" presented at the last meeting, Dr. James G. Grant reported a case of internal-ear disease, and Dr. Herman C. Theiss, an especially interesting case of spinal irritation.

The Madison County (Ala.) Medical Society held its regular meeting on September 3, at Huntsville. The subject of the fever so prevalent in the city and county was generally discussed, after which Dr. Julius T. W. Haney, of Madison Station, read a paper on "The Origin of Medical Ethics and Business Relations," and Dr. William C. Wheeler, of Huntsville, presented an essay on "Smallpox."

The Ringgold County (Iowa) Medical Society met at Mount Ayr, September 13, at which the following papers were read: Dr. William Horne, of Mount Ayr, "Gastric Neuroses"; Dr. Albert C. Armitage, of Ellston, "Typhoid Fever"; Dr. Benjamin B. Waring, of Maloy, "Summer Diseases of Children"; Dr. Samuel Bailey, of Mount Ayr, "Hydrotherapeusis"; Dr. M. F. Hannelly, of Tingley, "Puerperal Infection"; Dr. Cassius T. Lesan, of Mount Ayr, "Bacteriology from a County Physician's Standpoint," and William W. Syp, of Knowlton, "Appendicitis."

The Kalamazoo (Mich.) Academy of Medicine met on September 4. Dr. Edward P. Wilbur presented a case of albinism in a young man; Dr. J. M. Elliott read a paper on "Eclampsia in Children," and Dr. Henry B. Baker, of Detroit, secretary of the State Board of Health, read a paper on the "Restriction of Tuberculosis." In the discussion, some members took exception to the regulation of the State Board of Health requiring reports of all tubercular cases, but the consensus of opinion was that the regulation was wise, and that the efforts of the board and its secretary were most praiseworthy.

The Douglas County (Wis.) Medical Society held its annual meeting and banquet at West Superior, September 5. Dr. Joseph A. Rene, president, delivered the annual address. Dr. Charles M. Gould spoke on "The Health Commissionership of Superior." The following officers were elected: Dr. George Saunders, president; Dr. H. Jefferson O'Brien, vice-president; Dr. Patrick G. McGill, treasurer; Dr. John J. Quinn, secretary, and Drs. John Specht, Herbert J. Orchard, all of West Superior, and Dr. Edward T. Gauvreau, of Superior, censors.

The New Hampshire Surgical Club held its annual meeting at the Farragut House, Rye Beach, September 6. President Dr. George D. Towne, of Manchester, delivered the annual address; Dr. George A. Tolman reported an operation for "Strangulated Dermoid Cyst"; Dr. John M. Gile, of Hanover, read a paper on "Surgical Treatment of Gall-Stones," and Dr. John C. Irish, of Lowell, Mass., a paper on "Diagnosis and Treatment of Diseases of the Gall-Bladder and Bile-Ducts." The election of officers resulted as follows: Dr. Ira J. Prouty, of Keene, president; Dr. John M. Gile, of Hanover, vice-president, Dr. Nelson W. McMurphy, of Concord, secretary and treasurer, and Drs. George D. Towne, of Manchester, Nelson W. McMurphy, of Concord, Frank Blaisdell, of Goffstown, Henry L. Stickney, of Newport, and Arthur C. Heffenger, of Portsmouth, executive committee.

The County Practitioners' Club, composed of physicians of Floyd, Clark, Harrison and Washington counties, Indiana, held its quarterly meeting in Borden, September 7. Drs. Benjamin F. and J. Bodine Stalker were the hosts of the occasion. Clinical cases were presented by by Dr. J. Bodine Stalker and Dr. Charles H. Boston, of Bradford; and Dr. Robert S. Rutherford, of Galena made a case report. At the afternoon session Dr. F. Warren Samuel, of Louisville, Ky., read a paper on "Gall-stones in the Common Duct, Their Diagnosis and Treatment." The following officers were then elected: Dr. Benjamin F. Stalker, of Borden, president; Dr. William J. Purkhiser, of Salem, vice-president; Dr. J. Bodine Stalker, of Borden, treasurer, and Dr. Edwin L. Sigmond, of New Albany, secretary.

Spanish-American War Nurses' Association.—During the past week about sixty nurses who served in the Spanish-American war met at New York Hospital and effected the organization of the Association. Only those nurses who were in actual service for at least one month are eligible to membership, but with this restriction it is said that the membership may reach 500. Dr. Anita Newcomb McGee, Washington, D. C., acting asst.-surgeon, U. S. A., is the president, and Mrs. George Lounsbury, Charleston, S. C., corresponding secretary and treasurer. The association will meet next year in Washington, D. C.

Therapeutics.

Ulcers Exposed to Friction.

℞.	Orthoformi—sat. sol. in collodion.......	℥i	32

M. Sig. Apply locally after anesthetizing the ulcer with a 4 per cent. solution of cocain, or with pure orthoform powder.

—Sajous.

Contusion of Eyelids.

℞.	Acidi borici	ʒii	8
	Spt. vini	℥ii	64
	Aquæ, q. s. ad.........................	Oi	512

M. Sig. Locally applied to the wound.

℞.	Tinct. arnicæ.........................	℥ii	64
	Aquæ, q. s. ad........................	Oi	512

M. Sig. Apply cold and change frequently, followed by hot-water compresses when swelling has subsided.

—*Sajous' Annual.*

Cystitis.

E. C. Dudley recommends the following prescription:

℞.	Ext. hyoscyami	gr. i		06
	Camphoræ monobrom	gr. ii		12
	Morphinæ sulphatis	gr. ss		03
	Cocoa butter, q. s.			

M. Ft. suppository No. i. Sig. To be used as a suppository.

FOR IRRIGATING.

℞.	Acidi borici	ʒi	4	
	Sodii boratis	gr. xxx	2	
	Sodii choridi	gr. xv	1	
	Aquæ destil	Oi	512	

M. Sig. Irrigate the bladder with a double current catheter.

—Lobingier: *Sajous' Monthly.*

Freckles—Lentigo.

℞.	Hydrargyri chloridi corros	gr. vi		36
	Acidi acetici diluti	ʒii	8	
	Sodii boratis	gr. xl	2	66
	Aquæ rosæ	℥iv	128	

M. Sig. Apply night and morning, at first gently; later, vigorously.

℞.	Hydrargyri chloridi	gr. iii to viii		20 to .5
	Zinci sulphatis			
	Plumbi acetatis, āā	ʒss	2	
	Aquæ destil	℥iv	128	

M. Sig. Apply two or three times daily. Discontinue for two days when irritation is produced.

—Bulkley: *Cycloped. of Med.*

Chordee.

℞.	Camphoræ	gr. xx	1	33
	Pulv. opii	gr. v		33

M. Ft. pilulæ No. x. Sig. One or two at bedtime.

Chronic Cervical Metritis.

℞.	Potassii iodidi			
	Potassii bromidi, āā	gr. xx	1	33
	Tinct. iodi	ʒss	2	
	Aquæ	ʒii	8	

M. Sig. Inject into the hyperplastic tissue by means of a long syringe. —Monell.

Migraine.

℞.	Sulphonal	gr. xx		
	Phenacetini	gr. viiss		

M. Ft. wafer No. i. Sig. One wafer as needed.

M. Lilgois, in *N. Y. Med. Jour.*, recommends the above as being very efficient in the treatment of migraine.

Impetigo of Face and Scalp in Nursing Infants.

℞.	Acidi salicylici	gr. xv	1	
	Bismuthi subnitratis	ʒv	20	
	Pulv. amyli	ʒii	8	
	Unguenti rosæ	℥iss	48	

M. Sig. Externally applied. —*Med. News.*

Balanitis.

℞.	Potassii chloratis	ʒi	4	
	Aquæ destil	ʒiiiss	14	

M. Sig. Bathe the gland well in this solution and apply the following dusting powder:

℞.	Acidi tannici			
	Amyli, āā	ʒii	8	

M. Sig. Apply locally. —F. Toledo.

Pemphigus in Infants.

℞.	Zinci oxidi			
	Acidi salicylici, āā	gr. xii		8
	Lanolini	℥i	32	

M. Sig. Apply locally. —*Riforma Medica.*

Lumbago.

℞.	Sodii salicylatis	gr. x		66
	Potassii iodidi	gr. v		33
	Ext. sarsaparillæ fluidi	ʒii	8	
	Aquæ destil., q. s. ad	℥ss	16	

M. Sig. At one dose; to be taken in water after meals three times a day. —Nestor Tirard.

Acute Rheumatism.

℞.	Sodii salicylatis	gr. xx	1	33
	Spts. ammoniæ arom	m. xx	1	33
	Aquæ camphoræ	℥i	32	

M. Sig. At one dose. To be taken every two hours until six doses have been taken, or until temperature has fallen and pain has ceased, subsequently to be taken every six or eight hours.

Sansom recommends the above prescription. He finds that sodium salicylate is not incompatible with free ammonia or aromatic spirits of ammonia, and that the above shows no decomposition. —Stevens: *Phila. Med. Jour.*

Hypertrophied Tonsils.

℞.	Resorcini	gr. lxxx	5	33
	Betanaphthol	gr. v.		33
	Aquæ destil.	Oi	512	

M. Sig. Irrigate the tonsils and pharynx twice daily.

Castex, in the *Med. News*, very strongly advocates the use of the above combination.

Coryza.

℞.	Pulv. naphthalini			
	Pulv. acidi borici, āā	ʒvi	24	
	Pulv. camphoræ			
	Ext. violets, āā	gr. xv	1	
	Essentiæ rosæ	gtt x		66

M. Sig. Use as a snuff three or four times a day.

—Exchange.

Superfluous Hairs—Hypertrichosis.

Superfluous hairs can be temporarily removed by the following:

℞.	Barii sulphidi	ʒii	8	
	Pulv. zinci oxidi			
	Pulv. amyli, āā	ʒiii	12	

M. Sig. Make into a paste with water and spread over the part. —Gould.

Impotence.

℞.	Ext. damianæ flu	℥iiss	80	
	Tinct. nucis vomicæ	ʒvi	24	
	Tinct. cinchonæ comp., q. s. ad	℥iv	128	

M. Sig. One teaspoonful three times a day in water.

℞.	Zinci phosphidi	gr. iii		2
	Ext. nucis vomicæ	gr. xii		8
	Ext. damianæ	ʒi	4	

M. Ft. pilulæ No. xxx. Sig. One pill four times a day.

Purulent Ophthalmia of Newborn.

℞.	*Protargol—2 to 5 per cent.*	℥i	32	

Sig. Apply locally three or four times a day, and permit it to remain five or ten minutes.

To prepare protargol the powder is mixed well with water into a paste and then diluted the required amount by the addition of luke-warm water.

Prostatic Pain Following Gonorrhea.

℞.	Tinct. aconiti	ʒi	4	
	Tinct. gelsemii			
	Antipyrini, āā	ʒii	8	
	Ext. ergotæ fluidi	℥i	32	
	Aquæ, q. s. ad	℥vi	192	

M. Sig. A dessertspoonful every two or three hours in a wineglassful of water.

E. R. Corson recommends a combination similar to the above in treatment of prostatitis.

As a Gargle.

℞.	Tinct. myrrhæ	℥ss	16	
	Potassii chloratis	ʒi	4	
	Aquæ destil	℥iv	128	

M. Sig. Use as a gargle four or five times a day.

Alopecia Syphilitica.

℞.	Hydrarg. chloridi corros	gr iii		18
	Chloralis hydratis	ʒi	4	
	Resorcin	gr. iii		18
	Ol. ricini	m. xv	1	
	Spts. vini—90 per cent.—ad	℥vi	192	

M. Sig. Keep the hair short and rub into the scalp daily.

—*Riforma Medica*—in *Clev. Med. Gazette.*

Heart Failure in Typhoid Fever.

℞.	Spts. ammoniæ arom.	ʒiv	16|
	Tinct. digitalis	ʒii	8|
	Elixiris simplicis	ʒiv	16|
	Aquæ destil., q. s. ad	℥iii	96|

M. Sig. Shake. One teaspoonful every three hours.

Crusts of Varicella—Chicken-Pox.

℞.	Acidi carbolici	m. xv	1|
	Acidi borici	ʒiss	6|
	Glycerini	ʒiii	12|
	Aquæ rosæ	℥i	32|
	Aquæ destil., q. s. ad	℥iv	128|

M. Sig. Apply locally.

℞.	Acidi carbolici	m. v	|33
	Icthyolici	ʒiss	6|
	Vaselini	℥i	32|

M. Sig. Apply with a soft cloth.

Ingrowing Nail.

℞.	Liq. potassæ	ʒi	4|
	Cocainæ solutionis—4 per cent.	ʒiii	12|

M. Pack the side of the nail with cotton soaked in the above.

Apply plaster strips to draw the soft tissue away from the nail margin. Never cut the side of the nail. —*Med. Times.*

Dr. Kinsman, in *Columbus Med. Journal,* outlines the following:

1. Remove all pressure from the nail by cutting away a piece of the shoe.
2. Disinfect with hydrogen dioxid until no more "foam" appears.
3. Apply a strong solution of cocain in the base of the ulcer.
4. Apply a drop of Monsell's solution in the ulcer, then cover loosely with gauze. Repeat this process every second day until the edge of the nail is released by retraction of the hypertrophied tissue. The patient suffers no pain from the application, and all pain has disappeared the second day. The cure is effected in a week or two without inconvenience or interference with business. —*Texas Med. News.*

Exophthalmic Goiter in Childhood.

℞.	Strontii bromidi	ʒiss	6|
	Strontii iodidi	ʒiii	12|
	Aquæ destil.	ʒx	40|
	Aquæ menthæ pip.	ʒv	20|
	Syr. menthae pip.	ʒv	20|

M. Sig. One teaspoonful three times a day. —*Med. Record.*

Hepatic Colic.

℞.	Etheris sulph.	ʒi	4|
	Syrupi acaciæ	℥iv	128|

M. Sig. One tablespoonful every fifteen or twenty minutes until the pain is relieved.

Or,

℞.	Chloroformi		
	Tinct. myrrhæ āā	m. xv	1|
	Etheris sulph.	ʒi	4|
	Mucilag, acaciæ	ʒii	8|
	Syr. simplicis	℥iiiss	112|

M. Sig. One tablespoonful every fifteen minutes.

If vomiting is persistent, give small pieces of ice and sedative drinks, and apply turpentin stupes to the abdomen. Liniments are without effect. —*Lemoine: Internat. Med. An.*

As suppositories in the above:

℞.	Ext. belladonnæ		
	Ext. opii, āā	gr. 1/3	|02
	Olei theobromæ	ʒiss	6|

M. Ft. suppos. No. 1.

Formaldehyde in Catarrh.

℞.	Formaldehyde	ʒi	4|
	Glycerini	ʒiv	16|
	Aquæ destil	℥v	160|

M. Use as a spray four or five times a day. —*Merck's Archives.*

Medicolegal.

Dying Declarations Impeachable.—To render a dying declaration admissible in evidence, the Supreme Court of Indiana recognizes, in the case of Green vs. State, that it must be shown that the declarant was under the sense of certain and speedy death. But proof of that, the court says, may be afforded by circumstances, even in the absence of any express statement to that effect by the declarant. Moreover, the evidence on this point, it states, is first for the trial court to hear in determining the admissibility of the declaration. And, after the trial court has decided that the declaration is admissible, the court says, the jurors are entitled to know all of the circumstances surrounding the declarant, in order to determine what credit should be given to the declaration. Then, the court holds that a person accused of crime in a dying declaration is entitled to have contradictory statements made by the declarant introduced in evidence, as an impeachment of the dying declaration introduced by the state, although such statements are neither part of the res gestæ, or essential circumstances of the case, nor dying declarations. It says that, inasmuch as a defendant has no opportunity at the trial to have a cross-examination as to the subject-matter of the dying declaration, it would be most unjust to deprive him of the right of impeachment by contradictory statements, and the right would be lost to him if he were required to lay the usual foundation for that kind of impeachment.

Prohibiting Street Association With Prostitutes.—In Hechinger vs. the City of Maysville, the Court of Appeals of Kentucky holds unconstitutional a city ordinance making it unlawful for any person or persons other than the husband, father, brother or male relative, to associate, escort, converse or loiter with any female known as a common prostitute, either by day or by night, on any of the streets or alleys of the city. The penalty imposed for a violation of the ordinance was a fine of not less than $5 nor more than $20. Manifestly, says the court, the ordinance was intended to accomplish a proper and laudable object. But it does not think that it was properly guarded. It says that there can be no good reason in exempting any male relative from the operation of the ordiance except a husband, father or brother. On the other hand, a mother or sister should be allowed the same privilege as allowed to the father or brother. Moreover, any person should be allowed to converse with such a female long enough to transact any necessary and legitimate business, and no one should be punished for a violation of an ordinance such as the one under consideration unless the party so offending had knowledge or information of the disreputable character of such female. But an ordinance conforming to the views thus indicated, it says, would be clearly within the police power of the city council, and would be a proper and commendable exercise of the police power.

Suggests Case of Fetichism.—The Court of Criminal Appeals of Texas has reversed a conviction of an attempt to commit rape, in Draper vs. State. The prosecutrix, who was the main witness for the state, testified substantially, among other things, that she was 13 years of age; that her aunt had given her to the accused, Draper, when she was about 4 years old, and that she had lived with him ever since; that he was an unmarried man; that for four years he had had sexual relations with her, and that she knew he penetrated her because it hurt her. On the other hand, three physicians examined her, and found her hymen intact, and no evidence of her being penetrated by the male organ, or otherwise. The only variation in their evidence was that one of them thought the parts looked a little flabbier than naturally, which might have resulted from other causes than copulation, and another of them thought there was more elasticity about the hymen and adjacent parts than usual, though he did not know that he would have noticed it if he had not been examining the prosecutrix with reference to this case. Now, the testimony of the physicians, the court thinks, showed her testimony false as to the penetration at least. True, it says, rape could be committed without rupture of the hymen by merely introducing the male organ between the labia, but this was not the testimony. And it declares it unreasonable to believe that the accused had been endeavoring during four years to penetrate her parts, without success, and without leaving any manifestations of his attempts. Not to discredit the story of the prosecutrix entirely, it adds, by way of suggestion, that he may have been afflicted with that form of sexual disease known as fetichism, where the victim, laboring under venereal excitement, simply desires to gratify his lust by contact of his genital organs with any part of the body of a woman.

Aggravated Sufferings from Miscarriage Provable.—The case before the second appellate division of the Supreme Court of New York, of Witrak vs. the Nassau Electric Railroad Company, was one brought by a married woman to recover damages for personal injuries which she sustained in consequence of being struck and knocked down by an electric car. She was pregnant at the time of the accident, and was delivered of a stillborn child about six weeks afterward, the indications being that the child had died but a short time before delivery. The medical evidence showed that the confinement was about ten days late, and the physician who attended her expressed *the opinion that the injury was at least one factor in* producing the destruction of the fetus. Now, in a husband's suit for damages arising out of a personal injury to his wife, as a result of which she suffered a miscarriage, it has been expressly held, says the court, that nothing can be recovered by the husband on account of the loss of offspring. The inquiry is too remote and speculative. And the reasoning which denies a right of recovery to the husband, the court thinks, is equally applicable to a similar claim on behalf of the wife herself. But where the loss of offspring, as in the case of a miscarriage, is accompanied by bodily injury to the mother, or the infliction of pain upon her, such injury or pain, the court holds, is a proper subject of consideration in the assessment of damages. So in *actions of the character of this case, proof to the effect* that the plaintiff's sufferings have been aggravated by reason of a miscarriage caused by the accident, the court holds, is clearly admissible in evidence. The plaintiff is entitled to recover for the physical injury which she has sustained, and for the pain and suffering which she has endured and will endure, as a result of the defendant's negligence. Consequently, so far as a miscarriage or the delayed delivery of a stillborn child augments the mother's physical injury, pain, or suffering, so far, the court holds, is it proper to be considered on the question of damages; but its effect in depriving the mother of offspring can not be taken into account as an element of damage at all. Furthermore, the evidence in this case showed that the plaintiff was badly bruised upon the left leg, knee, thigh, and hip, so that she had suffered a good deal of pain in the year and a half from the time of the accident to the time of the trial. The extensor muscle had been injured, a portion of it being torn from the kneepan, which a medical expert characterized as a permanent injury, causing a lameness that would be lasting. For it all, or rather for all the actionable damages stated, the court thinks an award of $3500 not excessive.

Liability for Delay of Operation.—In the appealed case of the Galveston, Harrisburg & San Antonio Railway Company vs. Hanway, the Court of Civil Appeals of Texas has reversed a judgment for $9000 against both the railway company and a physician who was sued with it for damages on account of negligence alleged to have been committed in delaying the amputation of an employee's foot for twenty-four hours, which negligence was alleged to have caused his death. The operation, when performed by the physician, was properly and skilfully done. This was not disputed. Consequently, the case against the company and the physician depended, first of all, on the question of whether or not he was negligent in postponing the operation a day, and, in order to find the company and him liable in any event, it was essential, the court says, that the jury should find, from testimony reasonably sufficient to enable them to so find, that, if the operation had been performed on the first morning in question, the patient would not have died. Now, not one of the medical witnesses testified that the patient would have lived, had the amputation taken place a day earlier, nor gave it as his opinion that he would have lived. They were unanimous in protesting their inability to say whether or not he would have lived. A number of them said that the chances were less the longer the delay after the conditions once became favorable for the operation. Continuing, the court states that it might have been that, if there had been testimony in the case, such as was claimed, but the court thinks erroneously, as having been given by one witness, that the percentage of deaths in amputations was less than 1 per cent., a finding of the jury that the patient would have recovered would have been sustained, on account of the extreme probability that such would have been the result; for the death-rate in such instances would then have appeared to be practically nothing. But there was no such evidence, as has been shown. The evidence showed that a substantial percentage of the cases of this kind, performed under favorable conditions, result in death. And, if no physician would go so far as to give it as his opinion that an operation a day earlier would have saved the patient's life, the court declares that it fails to see how a jury could have been able to so find. Wherefore, it holds that the company could not be held liable, in this case, for another reason. It appeared that, while it maintained a hospital department in connection with its road, under the control of its manager, and for this it employed a chief surgeon and others, still it was not conducting this department as a business; it derived no profit, but, instead, sustained a loss, therefrom, and that, in fact, the department was not designed for profit. Under these circumstances, the court declares that the company could not be held liable for the negligence of the physicians it furnished, except on the ground of want of proper care in selecting or retaining them. It thinks it different from a case where a large profit had been derived, which went to the company's credit in the bank, with its other moneys. Here, it thinks that the company's obligation was simply to furnish proper attention and treatment, and that this duty was performed when it appeared that the physician in question was competent.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

New York Medical Journal, September 8.

1 *A Plea for Early Naked-Eye Diagnosis and Removal of the Entire Organ, With the Neighboring Area of Possible Lymphatic Infection in Cancer of the Larynx. John Noland MacKenzie.
2 *Report of a Case of Nephrectomy for Ascending Tuberculosis, with Some Remarks on Cystoscopy and Catheterization of the Ureters in Women. (Concluded.) Hiram N. Vineberg.
3 *The First-Aid Packet in Civil Practice, and the Organization of First-Aid Societies. M. J. Shields.
4 *Feeding the Infants of the Poor with Unsterilized Cow's Milk. George Thomas Palmer.
5 *Severe Hemorrhage after Operations on the Throat and Nose. Report of Five Cases. Arthur Ames Bliss.
6 The Surgical Treatment of Laryngeal Cancer. J. Solis-Cohen.

Philadelphia Medical Journal, September 8.

7 *The Etiology and Pathology of Empyema. Joseph McFarland.
8 *Prostatic Calculus. John C. Spencer.
9 *Heroin in the Treatment of Phthisical Cough and Whooping-Cough. M. *Loewenthal.*
10 *Note on the Frequency of Renal Casts Without Albuminuria. C. F. Martin and F. B. Jones.
11 A New Forceps for Holding Slides in Staining. Thomas S. Kirkbride, Jr.
12 Legal and Judicial Disagreement and the Shortcomings of Medical Witnesses. Irving C. Rosse.
13 *Rheumatic Fever. J. Newton Hunsberger.

Medical Record (N. Y.), September 8.

14 *Dilatation of the Cervix by Means of a Modified Champetier De Ribes Balloon. James D. Voorhees.
15 *Observations on the Gastric Functions Before and After Gastroenterostomy. Charles S. Fisher.
16 *A New Physical Sign in Dislocation of the Heart; Gastrectatic Dyspnea and Pseudo-Angina. Albert Abrams.
17 *Two Cases of Intestinal Obstruction Following Vaginal Hysterectomy, and one After Pelvic Abscess, with a Secondary Operation in Each Case. A. Goldspohn.

Boston Medical and Surgical Journal, September 6.

18 The Scope and Aim of the Section's Work. Kenneth MacLeod.
19 *Notes on Dermatitis Venenata. George F. Harding.

20 *Notes on the Treatment of Ataxic Patients by Co-ordination Exercises, with the Demonstration of Two Patients. James J. Putnam.
21 Two Cases of Abnormal Sexual Development. George G. Sears.

Medical News (N. Y.), September 8.

22 *Trophic Changes in Consumption: A Contribution to the Symptomatology of this Disease. Henry Herbert.
23 *The Effect of Flashes of Electric Light on the Eye. Dunbar Roy.
24 Graves' Thyroid Disease. O. T. Osborne.
25 *The Status of General Anesthesia in 1900. M. L. Maduro.
26 *The Physiology of Sleep. H. H. Stoner.
27 An Attack of Urticaria Occurring in the Tropics Simulating Angioneurotic Edema. Jacob S. Green.

Cincinnati Lancet-Clinic, September 8.

28 *Penetrating Wounds of Chest. C. M. Paul.
29 Infant Feeding. James W. Rowe.

St. Louis Medical Review, September 1.

30 Local Diagnosis of Diseases of the Spinal Cord. Philip Zenner.

September 8.

31 *Observations in Genito-Urinary Technics. J. Rilus Eastman.
32 Treatment of Apparent Death in the New-Born. B. S. Schultze.
33 Treatment of Biliary Lithiasis. A. Gilbert and L. Fourier.

The Medical Age (Detroit), August 25.

34 Common Sense versus so-called "Christian Science." C. C. Mapes.
35 *Simple Goiter. F. W. Powers.
36 Conservative Treatment of Acute Suppurative Inflammation of the Drum Cavity and Attic. William Cheatham.

American Practitioner and News (Louisville, Ky.), August 1.

37 *Hay Fever. R. Alexander Bate.
38 *The Drug Habit and Its Treatment. H. T. Rivers and P. H. Stewart.
39 Discursive Notes as to the Management of the Insane. Barton W. Stone.
40 Antitoxins. G. P. Hachenberg.
41 *Inflammation of the Middle Ear in Infants and Children. Adolph O. Pfingst.

American Journal of the Medical Sciences (Philadelphia), September.

42 *A Case of Ligature of the Abdominal Aorta Just Below the Diaphragm, the Patient Surviving for Forty-eight Days; With a Proposed Instrument for the Treatment of Aneuisms of the Abdominal Aorta by Temporary Compression. W. W. Keen.
43 *Granular Degeneration of the Erythrocytes, and Its Significance in Clinical Pathology. Ernst, Grawitz.
44 Idiopathic Dilatation of the Esophagus. Max Einhorn.
45 *Myositis Ossificans. Lydia M. DeWitt.
46 Sarcoma of the Small Intestine. E. Libman.

Maryland Medical Journal, September.

47 Remarks on Intestinal Obstruction. Randolph Winslow.
48 Traumatic Rupture of the Popliteal Artery with Gangrene of the Leg—Amputation—Recovery. James C. Bloodgood.
49 A Case of Cancer of the Esophagus with Perforation into the Left Pleural Cavity; Death from Pyopneumothorax. Julius Friedenwald.
50 Report of a Rare Case of Monstrosity. H. G. Beck.

Journal of Cutaneous and Genito-Urinary Diseases (N. Y.), September.

51 Case of Xanthoma Diabeticorum. Samuel Sherwell and James C. Johnston.
52 *On the Pathology of Gonorrheal Pyelonephritis—Presentation of a Gonorrheal Kidney. Bransford Lewis.
53 Case of Epidermolysis Bullosa. Chas. P. Russell.

Oklahoma Medical Journal, September.

54 Refraction of School Children's Eyes. E. E. Hamilton.
55 *A Case of Double Vagina and Double Uterus—Four Pregnancies. Herman E. Pearse.
56 A Case of Osteo-Sarcoma of Inferior Maxilla—Operation. A. L. Blesh.

Archives of Otology (N.Y.), April-June.

57 *Re-examination of the Hearing of Deaf-Mutes Originally Tested in 1893. F. Bezold.
58 Fourth Report on the Patients Treated During the Year 1898 in the Hospital and Outdoor Department for Aural Diseases at the University of Strassburg. F. Alexander.
59 A Case of Bezold's Mastoiditis Secondary to Facial Erysipelas; Operation; Recurrence of the Erysipelas within Twenty-four Hours; Cure. John Dunn.
60 *Nasal Empyema as an Etiologic Factor in the Establishment and Continuation of Post-Nasal Catarrh and Catarrhal Inflammation of the Middle Ear, with an Especial Consideration of the Enlargement of the Posterior End of the Middle Turbinate as a Predisposing Cause. Carolus M. Cobb.
61 Three Cases of Diabetic Mastoiditis. E. P. Friedrich.
62 Sharply Circumscribed Sound-Defects in the Hearing-Fields of Certain Deaf-Mutes. A. Schwendt.
63 Multiple Rarefaction (Spongiosirung) of the Labyrinth—Capsule found at the Autopsy of a Case of Progressive Deafness. F. Siebenmann.
64 Contributions to the Knowledge of Intracranial Complications of Ear Disease. Geo. Lehr.
65 Examination of the Pupils of the Municipal Deaf-Mute School at Danzig, Germany. G. Kickhefel.

The Stylus (St. Louis), September.

66 The Preparation of the Lying-in Patient and the Management of Normal Labor. J. H. Alexander.
67 Something Needed for the Worthy Doctor to be Appreciated. R. H. Simpson.
68 Stricture of the Urethra. (To be continued.) C. M. Nicholson.
69 A Few Words About the Veins. R. W. Baker.
70 A Case of Hyperchlorhydria. (Continued.) M. D. Schmalhorst.

Medicine (Detroit), September.

71 Bone Food. B. T. Whitmore.
72 *Normal Salt Solution in the Treatment of Hemorrhage in Typhoid Fever. C. H. Andersen.
73 Pregnancy Complicated by Suppuration of Fibroids. Charles G. Cumston.
74 *Treatment of Tuberculosis of the Lungs. C. J. Whalen.
75 *Suggestion without Hypnotism as a Therapeutic Agent. Harold N. Moyer.

Southern Practitioner (Nashville, Tenn.), September.

76 Thyroid Gland in Medicine. W. H. Witt.
77 Cancer. W. B. Young.

Indiana Medical Journal, September.

78 Some Hoosier Doctors of My Acquaintance. Miles F. Porter.
79 Rectal Alimentation. J. N. Jerome.
80 Simultaneous Occurrence of Typhoid Fever and Malarial Fever. Jas. W. Bevans.
81 *Obstruction of the Upper Air-Passages with Illustrative Cases. Fletcher M. Gardner.
82 *Head-Last Presentation—Left Side Position of Mother. S. Hunt.
83 Case of Strangulated Hernia in an Infant, with Operation and Recovery. W. D. Schwartz.

St. Paul Medical Journal, September.

84 *The Lymph Node as a Factor in Diagnosis. C. A. Wheaton.
85 Varicose Veins of the Lower Extremity. C. H. Mayo.
86 *The Treatment of Penetrating Wounds of the Chest. James H. Dunn.
87 *The Value of the Newer Signs and Procedures as Aids in Diagnosis. George D. Head.
88 *Cardiac Dilatation. A. W. Stinchfield.
89 *Early Diagnosis of Pulmonary Tuberculosis. J. W. Bell.
90 *Constant or Sustained Cold as a Therapeutic Agent. Soren P. Rees.

Journal of Medicine and Science (Portland, Me.), August.

91 Lacerations of the Cervix Uteri. Importance of Repair. John B. Shober.
92 Views of Scientists and Sciolists on Abortion. E. D. O'Neill.

Railway Surgeon (Chicago), August 21.

93 *Traumatic Laceration of the Male Urethra. H. A. Leipziger.

Medical Standard (Chicago) September.

94 Methods in the Diagnosis of Diseases of the Stomach. Charles D. Aaron.
95 Diseases of the Arteries. Albert Abrams.
96 Cervical Polyp; Gonorrheal Infection; Carcinoma Uteri. Henry P. Newman.
97 Concerning Truss-Fitting. H. H. DePew.
98 Secondary Syphilis. William S. Gottheil.
99 Pelvic Surgery Without Ligatures and Retention Clamps. Valdemar Pleth.
100 Varicella, Variola and Vaccination. Marcus P. Hatfield.

International Journal of Surgery (N. Y.), September.

101 *Diaphragmatic Hernia, with Report of a Case. E. W. Walker.
102 *Hysterectomy. W. H. Haughey.
103 Regional Minor Surgery. (Continued.) George G. Van Schaick.
104 Treatment of Fractures. (Continued.) W. L. Estes.
105 Severe Crushing Injury of the Hand. H. L. Stickney.
106 Technique of Surgical Gynecology. (Continued.) Augustin H. Goelet.
107 Chronic Cystitis in Women. Diagnosis and Treatment. Matthew D. Mann.
108 Report of Case of Recurring Multiple Sarcoma cured by Contracting Erysipelas. P. O'Keef.
109 Fracture of the Ribs. George S. von Wedelstaedt.
110 Report of a Case of Fractured Patella Treated by Massage. Chas. B. Chidester.

Carolina Medical Journal (Charlotte, N. C.), August.

111 Brief Report of Some Recent Surgical Cases. Stuart McGuire.
112 La Grippe—Otitis Media Purulenta—Mastoiditis—Recurrent Facial Paralysis—Operation—Recovery. John Dunn.
113 Surgery for the Prevention and Cure of Crime and Criminals. A. J. Wakefield.
114 Unusual Case of Laudanum Poisoning—Recovery. J. E. Kerr.
115 A New Pedicle Needle. L. B. Owens.
116 A Few Words to the Editor and Readers. W. Peyre Porcher.

Hot Springs Medical Journal, July.

117 *Gunshot Wounds. E. B. Osborn.

New Orleans Medical and Surgical Journal, September.

118 Variola—Its Symptomatology, Complications, Diagnosis and Treatment, as Learned from the Study of 100 Cases Seen

at the Shreveport Pest-house in January and February, 1900. S. C. Barrow.
119 Successful Treatment of Variola. V. Lehmann.
120 *Improved Method of Vaccination—Vaccinoid. V. Lehmann.
121 Suggestions for the Treatment of Gastrointestinal Ailments of Children. B. A. Colomb.
122 Acute Rheumatism in Childhood, with Report of Two Cases. E. D. Fenner.
123 Pneumonia After Surgical Injury. Arthur V. Meigs.
124 Case of Peripheral Neuritis—Methods of Examination. Chas. Wells.

New England Medical Monthly (Danbury, Conn.), September.

125 *Address. A. Jacobi.
126 Latent Form of Endometritis. James A. Hopkins.
127 Chloroform in the Sitting Posture. D. E. Keefe.
128 The Treatment of Dyspepsia. Eugene C. Underwood.
129 Some Cases of Obstinate Headache, the Woman's Burden. S. Green.
130 The Diagnosis and Treatment of Genital Dislocations. Byron Robinson.
131 The Use of Carold in Mal-Digestion. Geo. A. Gilbert.

Northwestern Lancet (St. Paul, Minn.), August 1.

132 *Prophylactic Douche. O. S. Chapman.
133 Some Obstetric Notes and Reminiscences. F. W. Dimmitt.
134 Conservative Intranasal Surgery. O. Wellington Archibald.
135 *Urinary Excretion—Normal and Abnormal, with Treatment* of the Latter. M. H. Cremer.
136 Catarrhal Colitis. J. C. Adams.

Medical Times (N. Y.), September.

137 The Treatment of Asthma; Methyl Blue in Vesical Irritation. Thomas Hunt Stucky.
138 Some Observations on the Prognosis and Treatment in the So-called Catarrhal Deafness. Dunbar Roy.
139 Gall-Stones Followed by Spontaneous Rupture of the Gall-Bladder; Operation; Recovery. A. Morgan. Vance.
140 Treatment of Gastroenteric Infection of Children. M. E. Fitch.

Mississippi Medical Record, September.

141 *The Use of Hypnotism in General Practice. E. H. Martin.
142 Acute Suppurative Osteomyelitis. W. R. McKinley.
143 Be Ready. L. A. Murdock.

AMERICAN.

1. **Cancer of the Larynx.**—MacKenzie makes a plea for more thorough work in case of cancer of the larynx. He insists on the importance of thorough investigation and removal of all diseased tissue, also the removal of the lymphatic glands of the neck if they are visibly involved. The partial removal of any diseased infectious condition like cancer only stimulates its extension, the operation must be thorough if it is to be effective. He says the time will surely come, if it has not already, when the surgeon will consider it his duty in cancer of the larynx to remove not only the entire organ, but all the neighboring hypertrophied area.

2. **Catheterization of the Ureters in Women.**—Vineberg states that he has used ureteral catheterization over 100 times in fully fifty patients and has never seen any bad effects result, excepting some pain in the twenty-four hours following the operation. He has also carried out the procedure without any anesthetic in the knee-chest posture and the patient has been able to go home from the office shortly afterward. It requires, of course, strict asepsis, and one should wait until he has the ureteral orifice fully in view, then, with a small pledget of cotton soaked in some antiseptic solution, the inside of the cystoscope can be mopped clean and the mouth of the ureter may be cleansed with a second pledget. Then the sterilized catheter is passed directly into the orifice without coming in contact with the vesical mucosa. He reviews the diagnostic and therapeutic indications of the procedure and reports a case in which the introduction of the catheter seemed to be at once curative. He does not explain how this happens to be so, though he offers one or two theories to which he shows the objections.

3. **First-Aid Packet.**—The object of Shields' article is to call attention of physicians, especially those who have to do with communities where accidents are frequent, to the organization of first-aid societies. They are organized by selecting men who are efficient, willing to give some attention to the subject, temperate in their habits, intelligent and conscientious, who will be faithful in attending the meetings of the society and recognize that they are doing it for charity's sake, do not get disconcerted easily, and have no aversion to the sight of blood. He has organized such a society and finds the men zealous and willing and he recommends that they wear a distinctive badge so that it will be known who can be relied upon for help in time of need. The financial part of the work is easily managed, the total of his expenses having been only $50, voluntarily contributed. He has not had to call on any companies, but has no doubt that they would be willing to contribute.

4. **Infant Feeding.**—Palmer reports experience with feeding of infants with modified unsterilized cow's milk in Chicago. The principal effort has been to obtain good, clean certified milk, which was obtained from the dairy of H. B. Gurler, of DeKalb, Ill., and their modifications were not pushed extensively for this milk, which shows no greater variation than mother's milk under normal conditions. Their midsummer mortality with this milk taken into the unhygienic homes of the poor of Chicago was 3/7 of 1 per cent. He thinks that it may be a better argument than any other he can offer to inquire into the mortality statistics of those institutions that use the pasteurized or sterilized milk reduced in its dietetic value.

5. **Hemorrhages After Nose and Throat Operations.**—The chief point of Bliss' article, with a report of five cases of severe hemorrhage, is the importance in looking into all the conditions of the case when operating on the nose and throat. The question of hemophilia would be enough to necessitate this and the tendency to conceal this infirmity renders careful inquiry all the more necessary.

7.—See abstract in THE JOURNAL, xxxiv, p. 1196.

8.—Ibid., p. 1130.

9. **Heroin.**—Loewenthal has used this in 13 cases, 3 of tuberculosis and 10 of whooping-cough. While sceptical at first as to its value, he has concluded that it is superior to anything we have for the treatment of whooping-cough. "If you have a case of pertussis," he says, "and desire results, use heroin."

10. **Renal Casts.**—Martin and Jones have studied the urine in the Royal Victoria Hospital, Montreal, and found that in a very large number of cases without albuminuria casts have been present. They say that it can not but be believed that their actual cause is devoid of the gravity in prognosis usually associated with their presence, that is, without other significant symptoms. This applies to the hyaline and granular varieties, the epithelial casts being less common and probably of more serious import. From their observations, they conclude that they are generally caused by irritating conditions.

13. **Rheumatic Fever.**—The indications in the treatment of rheumatism are: 1. To prevent fresh chilling of the parts. 2. To keep the affected parts at rest. 3. To modify the condition of the blood and neutralize the irritant action. 4. To prevent, if possible, inflammation of the endocardium and pericardium. The author anoints the joints with olive or some other bland oil, and wraps well with two or three layers of absorbent cotton—retained by a lightly-applied bandage. The patient should always be between woolen blankets in a ventilated room with a temperature of 70 or 80. He relies chiefly on potassium carbonate in 10 to 15 gr. doses every two hours to modify the condition of the blood. He thinks that it has a sedative action on the heart, and cardiac complications rarely occur with its use. He is especially opposed to the use of the salicylates, which he thinks are useless and contraindicated.

14. **Dilatation of the Cervix.**—The various methods of dilating the cervix are noticed by Voorhees, who describes the technique and apparatus of the Champetier balloon, its indications and contraindications. His conclusions are: 1. Dilatation of the cervix is readily accomplished by a hydrostatic bag. 2. The best balloon for it is the modified Champetier de Ribes—it being inexpansible, impermeable, strong and inexpensive. 3. The Barnes bag is unsatisfactory. 4. The operation is easy and not dangerous. 5. The *dilatation is rapid.*

6. The uterine contractions always start after its introduction into the uterus. 7. Labor is hastened, and almost always terminates spontaneously after expulsion of the balloon, or the easy extraction of the child is possible. 8. The balloons control hemorrhage in placenta previa, and diminish fetal mortality. 9. The balloons meet all the indications before mentioned.

15.—See abstract in The Journal, xxxiv, p. 1260.

16. **Dislocation of the Heart.**—Abrams describes certain conditions of the heart and stomach which are not always fully recognized and gives the name of gastrectatic dyspnea to the difficulty of breathing experienced sequential to gastric dilatation. He thinks this condition of dilatation of the stomach has not been sufficiently noticed in the literature as an etiologic factor in pseudo angina pectoris, though he has met with cases that were immediately relieved by the treatment of the stomach or a neurasthenic condition which was primarily a factor in the distention of the stomach by gases. The sign of Ferber—that is, the phenomenon of the circulatory tympanitic stomach-lung region disappearing behind the axillary line if the stomach is normal, but if it is dilated, extending to the vertical column—has been very unsatisfactory. The examination after dilating the stomach with air frequently fails to confirm the existence of this sign. He calls attention to a new sign, viz., a patch of dulness or flatness in the interscapular region on the left side, midway between the spinal column and the interior border of the scapula, varying in size from a silver dollar to the entire space between the scapula and the spine. It disappears to be replaced by the normal lung resonance when the patient leans forward and reappears again with the erect position, and is greatly increased by leaning backward. The cause of the dulness is the compression of the lung by dislocation of the heart upward, and the sign is constantly present. He has convinced himself as to the cause of this by introducing a stomach-tube into the stomach and distending it with air, by which he can invariably reproduce the clinical phenomena. The sign may be confounded with the atelectatic zones sometimes present in this region, but these disappear after repeated forced voluntary inspiration, and are not influenced by the position of the patient. In pericardial effusion the sign of Bamberger is important, which is due to exudate compression of the lung. In the erect position there is a space about the size of a silver dollar at the angle of the scapula, over which increased fremitus and bronchial breathing may be elicited. If the patient bends forward the sign disappears, to reappear when he sits upright.

17. **Intestinal Obstruction After Vaginal Hysterectomy.**—Goldspohn reports several cases from which he deduces the conclusion that it is important to avoid adhesions after vaginal hysterectomy, especially by engaging any portion of the small intestine in the closure of the wound. It is necessarily done in cases where extensive abraded surfaces or septic features are present, but where no peritoneal drain is needed it is a just requirement that the cavity be sealed by coaptation of the edges of the peritoneum. The use of the forceps or clamps, so far as it interferes with such closure, is to be avoided. Secondary operations for the relief of post-operative ileus must be performed early, before infection and perforation of the bowels occur. He gives the symptoms and signs pointing to ileus, abdominal distention without marked tenderness to touch, rhythmical colicky pains, slow pulse that is not wiry, fecal vomiting, vermicular motion of the small intestine seen or felt through the abdominal wall, and increased proportion of indican in the urine.

19. **Dermatitis Venenata.**—This condition, which is most commonly observed as a result of contact with poison ivy or poison dog-wood or poison sumach, may be due to many other causes. The author here enumerates, among others, a case of poison from Japanese lacquer, from buttercups, field daisies, golden rod, wood anemone, nasturtiums, tincture of arnica, kerosene oil, the Seven Sutherland Sisters hair-grower, various liniments, etc., etc. This total of causes has a certain interest, as it affords a number of facts which will help, perhaps, to account for some peculiar eruptions, the cause of which is obscure.

20. **The Exercise Treatment of Ataxia.**—The following points should be strictly borne in mind in using the Frenkel treatment: That it is skill, not strength, that is sought to be developed, and it is necessary to begin with elementary motions, as some of the others that would be prescribed for healthy persons are too complex for the ataxic. However simple the movements, the patient must respond with promptness and accuracy to what is demanded. To inculcate these habits from the outset and reduce the difficulties at each step so that the attention and effort will make success possible and will ensure skill and confidence are, says Putnam, the requisites for good results. Dulness, monotony and fatigue on the one hand and superficiality on the other are to be avoided. He mentions certain methods, such as the use of simple tunes played on glasses or bells, calling numbers with varying rates of speed of the notes the patient must touch that are in this line. He thinks it is not sufficient to let the patient carry out the treatment himself by prescribed rules, and there are some cases which are not adapted to this method, such as those that are mentioned by Collins as being weak, anemic, and in those suffering with pain or frequent crises. Two cases, however, he reports do not quite bear out this statement, as improvement occurred in spite of some of the conditions enumerated by Collins.

22. **Trophic Changes in Consumption.**—These changes enumerated are: Idiomuscular contraction, smallness of the heart, pathologic changes in the pharynx, paresis of the soft palate on the infected side, ear troubles, pityriasis tabescentium, pigmentation of the iris and mamilla, changes in the skin, loss of hair, disturbances of sensibility, fatty degeneration of the liver, gastric disturbances, intellectual impairment, increased sexual desire, and amyloid degeneration. Herbert thinks these due to the action of the bacteria and the nerve terminals being affected. He reports several cases of unilateral trophic symptoms corresponding to those of the lesions of tuberculosis on the same side.

23. **Effect of Electric Light on the Eye.**—Roy calls attention to the various retinal changes due to electric flashes, which he finds are always traumatic, the irritation being produced almost exclusively by ultra-violet rays. According to his own observation, the Welsbach gas light is more satisfactory than any other, but he thinks there should be with it an undershade, preferably white, to mitigate the intensity of the light.

25. **General Anesthesia.**—After noticing the different methods of anesthesia and remarking that the Schleich mixture has lost favor to some extent because of lack of experience, prejudice, and the idea that petroleum ether might be dangerous, while he has found it satisfactory, Maduro calls attention to the relation of the boiling-point to the anesthetic action as pointed out by Schleich and believes that if we could adopt the principle of the relation of the boiling-point to the temperature of the body with the anesthetics we employ we should see far less alarming results. Ethyl bromid possesses the relative boiling-point of 38 C., and he thinks it is the quickest in action and the most rapidly recovered from of all. He will, in the future, publish the results of his experience with this anesthetic. In conclusion he insists on the importance of professional anesthetizers, to avoid mistakes that have occurred in the past.

26. **Physiology of Sleep.**—The theory of sleep here manifested is not a new one, it being that of retraction of the processes of the neurone.

28. **Penetrating Wounds of the Chest.**—Two [illegible] especially noticed: diagnosis and treatment. [illegible] trance and exit of air indicates perforation of [illegible] bleeding means nothing. Probing the [illegible] significance of pneumothorax [illegible] noted. As regards treatment, [illegible] cases that the mortality of penetrat[illegible] to hemorrhage: in a few [illegible]

expectant treatment, which is largely in favor with physicians, is, he thinks, not the best. He believes that the mortality will drop quickly and permanently when men have overcome the present fear of the chest and lungs and will resort to bolder measures. In simple perforation, with or without pneumothorax, and with evidence of but slight injury to the lung, and with moderate and stationary hemothorax, the expectant plan may be followed with the probability of good results. The chief worry is the chance of infection, but increasing hemothorax means great danger. Thus, when an external wound is once sealed or padded you limit retraction of the lung by preventing the exit of the air and give place for a larger effusion of blood. Where free entrance of air does not control the bleeding he would advocate free opening of the chest and packing the entire cavity with gauze and using transfusion with normal salt solution in all bad cases.

31. **Genito-Urinary Technics.**—The special points Eastman mentions are the importance of refraining from immediate withdrawal of the steel sound introduced, as is too commonly done, the advantages of cocainization to relieve the patient in case of marked hypersensitiveness, in irrigating the bladder with the Valentine apparatus or large piston syringe, the importance of bearing in mind that a blunt-ended instrument of larger caliber will sometimes pass where the small end of a small sound fails, protection to the clothes, the use of a weak fresh solution of potassium permanganate from a strong solution of known strength, instead of from crystals, which always produce pain, and the open method of ligation in varicocele instead of the subcutaneous one which is out of date, and the disuse of the clamp in cases of circumcision. The clamp devitalizes the tissues and sometimes prevents early healing by first intention. It is, moreover, useless, since the operation can be made easily and sufficiently without it by using the Pean forceps and cutting off behind the forceps jaws, the compressed tissue in this case being part of that which is thrown away.

35. **Goiter.**—The principal point of Powers' article is the treatment, which is the old method of iodoform injections, using these with true antiseptic precaution. He begins with from 5 to 8 drops of a saturated solution of iodoform in Squibbs' ether injected into the gland, and seldom applied it on both sides at the same sitting. In some cases pain is produced, which lasts, however, only a short time. Sometimes, after withdrawal of the needle, he hears a gurgling sound in the gland, but it seems to cause no inconvenience. As the size of the gland is diminished, it seems to harden, and we have to insert the needle deeper to reach the soft glandular structure. His views are based on an experience with twenty cases, of which sixteen were completely cured and four greatly improved.

37. **Hay-Fever.**—Bate considers hay-fever as a form of arthritism, which he thinks is generally admitted. Among the exciting causes, as well as local irritations, he includes sudden emotion and mental impressions. The treatment should embrace both the attack and diathesis. The treatment of the attack consists in establishing the equilibrium of the circulation, freeing the blood from uric acid, relieving hyperesthesia and removing the exciting cause; for the disturbed circulation such medication as raises the acidity of the blood and renders it incapable of absorbing uric acid. He mentions as also of use internal medication by suprarenal extract for its tonic action on the vasomotor system.

38. **The Drug Habit.**—The theory of the drug habit advanced by Rivers is that there is produced in the cells an accustomization to the drug which, when the supply fails, excites the inclination and that the vasomotor stimulants of sufficient power without serious depressing effects, and elimination of the insomerized drug before the effects of the stimulant disappears are a rational method of cure. He believes that of the drugs hyoscin is the safest and best handled, and he would give it in .01-gr. doses at intervals of one hour until intoxication is produced and then keep up the administration sufficiently to keep the patient in a delirious condition. At the end of twenty-four hours the second step, that of eliminating the drug by pilocarpin, is commenced—⅛-gr. dose every hour until there is full physiologic effect, and then continue its use at intervals of from two to three hours until all the hyoscin symptoms have disappeared. Watch the heart in the meantime and meet any glandular symptoms with atropin or morphin. If, at the end of this time, the patient expresses absolutely no desire for the drug the work is done, if, however, he still feels the need of his accustomed stimulant the treatment should be begun again. There is apt to be a bilious diarrhea following this method, which is usually easily controlled by bismuth or, if necessary, resorcin. He does not include alcoholic cases in this method of treatment, as the indications vary somewhat. He begins in such cases with a mercurial purge, and then proceeds as before, though using less hyoscin and pilocarpin. He has used this treatment in twenty-three cases, of which fifteen were alcoholic. They were all relieved with but one exception. He has had two bad results, both alcoholic, neither of them, he thinks, due to the treatment.

41.—See abstract in The Journal, xxxiv, p. 1487.

42. **Ligation of the Abdominal Aorta.**—Keen reports a case of ligation of the abdominal aorta for aneurysm in which the patient lived forty-eight days, collateral circulation having been established. The death was due, as in other cases, to cutting through the vessel by the ligature. To prevent this accident, which seems almost universal, he has devised an instrument for the compression of the aorta, which he illustrates, and which avoids the danger of pressure on the thoracic duct and requires only the opening of the abdomen and its application to the vessel. This instrument has been experimentally tried on dogs and the following are the conclusions deduced: 1. That in dogs paralysis of the hind legs follows complete obliteration of the aortic stream. 2. That the paralyzed parts may regain their entire health even after forty-eight hours' compression. 3. That three and one-half hours of compression will not interfere with the complete restoration of the paralysis. 4. That at least, after twenty-four hours, and possibly less, the collateral circulation may re-establish the continuity of the circulation. 5. That the aorta may be clamped in the dog for one hundred and ten hours, and yet the collateral circulation be established sufficiently to nourish the posterior extremities. 6. That the clamp can be placed on the aorta, at least in the dog, either in separate parts or as a whole. 7. That it can be readily removed without injury to the aorta.

43. **Granular Degeneration of the Erythrocytes.**—The granular changes in the red corpuscles that carry any certain disease, such as chronic lead poisoning, malaria, anemia, carcinoma and septic disorders, are observed and discussed by Grawitz, who concludes that their presence or absence is sometimes of considerable importance, as it permits us to decide on the etiology in certain anemic conditions and enables us to determine whether true blood-poisoning exists or whether the anemia is to be considered as but one symptom of a general cachexia. Granular degeneration is only a symptom which must be taken with other symptoms of the disease. The recurrence of these granulations is of no significance, but in certain cases of lead poisoning which are hard to recognize, also in those cases where the existing anemia is to be referred to malignant neoplasm, chronic nephritis or similar diseases, they are of value. In many cases granular degeneration appears as the first definite sign of anemia, where it is of special importance. In other cases, like tuberculosis, the anemia is not attended with this symptom and, therefore, we must not here look at it as depending on the destruction of the blood-cells, but on the involvement of the blood in the general tissues, that is there is a true oligemia, a reduction of the general amount of the blood. He thinks that a high temperature is sometimes its cause, and in this respect it is similar to that of many cases of tropical anemia.

45. See last week's Journal, p. 692.

52. **Gonorrheal Pyelonephritis.**—The report of a case, with careful autopsy and bactericidal examination, in which

only the gonococcus was found, has led Lewis to question the reported rarity of the condition from this exclusive cause. He argues against this, showing that it is practically possible to have ascending infection by continuity, as in the case he reports, or through the lymphatics, or by general infection or metastasis. He refers briefly to a case of gonorrheal rheumatism in which cultures of the blood produced abundant colonies of gonococci responding to the tests, and succeeding generations of germs were cultivated from these.

55.—This article has appeared elsewhere. See THE JOURNAL of September 1, title 31, p. 583.

57. **Hearing of Deaf Mutes.**—Bezold reports the results of testing, with an improved apparatus, a number of deaf mutes that had been formerly examined, and he finds the number of totally deaf less than before, though two of the cases had lost considerable hearing in the interval. The details of the test are given and the results indicate that special care assured to the partly hearing and partly vocal deafmutes will increase not only what speech and hearing they may have, but also that this fraction of normal hearing power can be utilized in teaching sound language.

60. **Nasal Empyema.**—The conclusions of Cobb's article are given as follows: 1. That the whole chain of catarrhal symptoms of the nose, the nasopharynx and of ears is due to empyema of the nasal accessory sinuses. 2. That this empyema is the result of an infective inflammation of the accessory sinuses in which the drainage is insufficient. 3. That the malformation of the posterior end of the middle turbinate, which he has described in this paper, plays an important part in the establishing of the nasal empyema which causes postnasal catarrh. 4. That chronic catarrhal inflammation of the middle ear may result from the catarrhal condition of the nasopharynx, either by extension of the disease, by continuity of tissue, by the forcible blowing of the irritating secretion into the middle-ear cavity, or by closure of the Eustachian tube from involvement of the mucous membrane in or around its entrance. 5. That there is no evidence of chronic catarrhal inflammation of the middle ear is caused by obstruction to nasal respiration, unless the obstruction is associated with empyema of the accessory sinuses. 6. That those cases of chronic catarrhal inflammation of the middle ear which are caused or made worse by nasopharyngitis can not be cured until the nasal empyema which causes the nasopharyngitis is first cured, and that mechanical treatment directed to the ears is only palliative and does not free the patient from the danger of an acute exacerbation of the disease. 7. That many cases of nasal empyema may heal spontaneously under favorable conditions, and the more recent the case the more probable it is that this will occur. 8. That the accessory sinuses have a tendency to free themselves of inflammation, and that treatment should be directed to assist nature to this end. 9. That it is possible to cure practically every case of nasal empyema, and therefore every case of nasopharyngitis depending on it.

72. **Normal Salt Solution in Typhoid.**—Andersen reports in detail a case of typhoid with severe hemorrhages, causing collapse, in which relief was obtained by the use of transfusions of normal salt solution. Several other cases were treated similarly with benefit, but none so bad as the one reported. He does not find reports of similar treatment for hemorrhage of the bowels in typhoid. In his case the operation was done in a tent without antiseptic appliances, and some abscesses followed, which he attributes to the fact of the saline solution not being filtered.

74. **Pulmonary Tuberculosis.**—In the treatment of pulmonary tuberculosis, Whalen considers guaiacol first among the drug preparations. He has been in the habit of giving it, 5 minims in capsule after each meal, with benefit. Next to this, he would use oil of cloves similarly administered. His experience with this has also been favorable. Iodin is of some use in certain cases, but inferior to the drugs mentioned, and is of most value when used by inhalation. Tonics such as strychnin, arsenic, phosphorus or cod liver oil are useful and should not be overlooked. Of late he has been using Armour's red bone-marrow in place of the malt and cod-liver oil, and finds it a valuable remedy. Alcohol in the early stages is not advisable, later it may be of benefit, and should be chiefly prescribed in the form of malt liquors. The diet should be as nutritious as possible, and special attention given to the digestion and assimilation. Internal medication can be aided by inhalation of various drugs, among which he places formalin first, though the essential oils of cinnamon, cloves and thymol are of value, as well as iodin, cod-liver oil, etc. Moderate exercise, together with lung gymnastics, is also spoken of with favor, as are cold applications to the chest followed by vigorous friction. The diarrhea which occurs he has been able to control with bismuth, and night sweats with atropin. Hemoptysis, as a rule, requires no treatment, though if necessary morphin is valuable, and he sometimes gives aconite to reduce the blood-pressure, also nitroglycerin. He has faith in the use of serum treatment, or tuberculin, and his experience with the compressing method of Murphy has not led him to have great hopes of its curative effects. Other subjects mentioned are the climate and altitude of various health resorts, and their respective merits are discussed.

75. **Suggestion Without Hypnotism.**—Moyer considers suggestion, well directed, patiently and systematically applied, a very important element in many diseased states. Hypnotism, on the contrary, has many objectionable features, and he thinks there is little use in inducing the hypnotic state. He does not say it is always useless, but it should not be practiced in a routine way, and when employed it should be only by medical men.

81. **Obstruction of the Upper Air-Passages.**—The general subject of obstruction of the nasal passages, etc., is gone over by Gardner, who finds it, regardless of cause, a distinct pathologic entity, producing certain well-defined disturbances of nutrition, alterations of the bones and contour of the face and palate and disturbances to sleep, predisposition to infection and chest deformities, as well as deafness, either from pressure or Eustachian involvement. With the attainment of maturity these conditions may become inoperable and results permanent. He holds there is hardly any class of cases where prompt treatment is as beneficial or procrastination more damaging.

82. **Head-Last Presentation.**—In this communication Hunt refers to a method of rapid birth of the head by placing the patient on the left side and producing pressure from over the fundus toward the buttocks. He claims that this method will result in saving the lives of many children. The pressure is toward the inlet of the pelvis and the possibility of injury is comparatively slight.

84.—See abstract in THE JOURNAL of July 14, p. 116.

86.—Ibid.

87.—Ibid., p. 115.

88.—Ibid., p. 116.

89.—Ibid., p. 115.

90. **Cold in Pneumonia.**—The use of cold for therapeutic purposes in pneumonia forms the subject of Rees' article, in which he reviews the opinions of various authors on the subject. He finds that it is valuable for pain in this disease, as its anodyne action has no effect on checking elimination, disturbing digestion, impairing the appetite or depressing the nervous system. It is also useful for the relief of general restlessness and delirium for the same reasons. The ice-bag slows and strengthens the heart-beat, and the pain being relieved, the patient unconsciously takes deeper breaths. The major argument for its use, however, is the effect on the circulation. It limits the congestion and consequent exudate and prevents the involvement of large areas of tissue. Sustained cold applied to the skin relieves the tendency to exudate and excessive diapedesis of leucocytes: 1, by constricting the cutaneous arterioles, and, 2, by setting up compensatory dilatation in the pulmonary and bronchial arterioles by the means of which the flushing out of the local stasis is favored. It has also a valuable, and by no means a slight, action on the gen-

eral temperature and acts as a safe and natural diuretic. The number of ice-bags used should depend on the size of the inflamed area and the stage of the disease; enough to cover the inflamed lobe should be used. It is not, however, applicable to every case, and should not be employed in young children and in the aged where the system is already depressed or weakened from causes prior to or complicating pneumonia. In very young children or in the old or feeble, where the strength is rapidly diminishing and cardiac and respiratory failure threatened, a cold sheet wrapped closely around the trunk and left there for a few minutes and reapplied at intervals of one or two hours is a powerful stimulant. Cases have been under his observation where this seemed to save life.

93. **Laceration of Urethra.**—The motive of this study, as stated by the author, is to ascertain the accepted management of the catheter after laceration of the male urethra and what is the prevailing opinion as regards suturing the laceration. He reviews the different authorities and their different views and reports a case. From his experience and reading he deduces that there is not sufficient positive information regarding the time the catheter should be retained. In Leipziger's case, if he had retained it for fourteen or twenty-one days at the first, instead of removing it at the seventh and then returning it for thirteen days more, the results would, he thinks, have been better. Leakage through the perineal wound need not cause any anxiety, as fresh urine does not harm the wound if it can be cleansed, and it makes no material difference whether the wound heals around the catheter by suture or granulation.

101. **Diaphragmatic Hernia.**—On the basis of a case successfully treated, and a study of others reported, Walker comes to the following conclusions: 1. In all cases of so-called internal strangulation one should always think of the possibility of a diaphragmatic hernia. 2. When the physical examination reveals the diaphragmatic hernia as probable, an operation is imperative when the symptoms of obstruction are present. 3. In recent cases, if the diagnosis has been made early, laparotomy is probably the better operation. 4. In old cases, on account of the difficulty of reducing the gut, ligating the sac and stitching the rent in the diaphragm, the transpleural route is preferable. 5. If, after making a laparotomy, the gut can not be reduced, a thoracotomy is justifiable.

102. **Hysterectomy.**—The chief point of Haughey's article is the plea for the complete operation of hysterectomy, instead of removing the ovaries in cases of chronic disease of the appendages. He does not see the use of the removal of the appendages and not the uterus. He believes the results of the combined operation are in every way more satisfactory than that of the single one which may require subsequent removal of the uterus afterwards.

117. **Gunshot Wounds.**—Osborn pleads for the operative interference in gunshot wounds of the abdomen. He thinks that the mortality would be greatly reduced if this were done, and reports cases where he has seen the "do nothing" treatment result in rapid death from perforation of the arteries, which might have been readily relieved by abdominal section. The anesthetic will also be the best treatment for shock.

120. **Vaccination.**—Lehmann's improved method of vaccination consists in gently stroking the surface of the skin, after making it tense, with the vaccin point, steadily increasing the pressure until the skin is rendered anesthetic, or is hypnotized, so to speak, by this local pressure and gradually increasing friction. Then, when it is sufficiently scarified, the two sides of the vaccin point are moistened with rainwater and passed over the denuded area, and a bit of tissue paper held over the spot until it is dry. Lehmann claims that this method minimizes irritation and is altogether in various ways better than those commonly used.

125.—This article has appeared elsewhere. See THE JOURNAL of July 14, title 95, p. 118.

132. **The Prophylactic Douche.**—The writer contends, after giving a brief review of the literature upon the subject, that the weight of testimony is in favor of discarding the douche as a routine measure, although some observers still adhere to their former contention as to its benefits. Even the preliminary douche is of doubtful utility, as the vaginal secretions possess bactericidal properties, they are useful and protective, and the various species of micro-organisms will meet with more timely neutralization without the douche than with it. The secretions may contain a great number and variety of bacteria, but usually they are non-pathogenic or produce but a moderate rise in temperature. Severe puerperal fever and death is generally due to infection from without, but it may have a cystogenic origin. Recent investigations go to show that the blood, the lymph and the tissues generally are not always sterile. In the puerperal state there is a greater liability of an accumulation of bacteria within the tissues than at other times, and nature has provided an extra channel of elimination for just this condition, and one of the chief provinces of the physician is to aid nature in this elimination.

141. **Hypnotism.**—Martin defines hypnotism as the effect of suggestion made during sleep. Simple suggestion is an impression made either when awake or during sleep. He divides all classes of cases in which suggestion or hypnotism can be used into those in which nothing does so well and those in which it will be of great assistance to other treatment. Among the first of these he includes persistent insomnia, nausea of pregnancy, pressure pain of pregnancy and wrenched back. Those where it may help are multiple. He insists on the importance of using hypnotism only rarely, and then when the case demands it. He advises the physician to read Moll's work first, then Bernheim, and then he will probably be well enough placed on the subject to read more extravagant authors without believing all they say.

FOREIGN.

British Medical Journal, September

Treatment of Malaria by Quinin.—In this discussion, in which a number of prominent English and Anglo-Indian physicians took part, the question of the prophylactic action of quinin was taken up. Dr. Duncan reviewed the statements of others chiefly, but found as a general conclusion that there is little doubt that quinin does exert a prophylactic action and its curative action is undeniable. It acts probably by destroying the organism, though there are several theories as to how it is done; whether it works on the spores or on the large intracorpuscular forms or stimulates the phagocytes is as yet not absolutely decided.

Dr. Buchanan, superintendent of the central gaol, Bhagalpur, Bengal, had submitted a series of questions to the medical men in India and received replies. Nearly all were in favor of the prophylactic issue of quinin; some of them have been criticised, hence several special papers were published by the medical officers reporting experiments made with special reference to meeting the criticisms. The results are strongly in favor of the prophylactic issue of the drug. If the statement of Capt. Fearnside, in the *Indian Medical Gazette* of September, 1899, can be substantiated that it prevents the formation of crescents, a very important argument in its favor will be established.

Buchanan has been giving for five years daily a dose of quinin or cinchonidin to, on an average, over 16,000 persons for the four months of the rainy season, and has never seen a single bad result.

Dr. Robert Fielding-Ould disagrees entirely with the idea of giving a regular dose of quinin to prevent malaria. He finds that it disturbs the peptic digestion and is apt to lead to congestion and torpidity of the liver. There are exceptions, he admits, where men can take the drug in quantities for years, but these objections, he thinks, are sufficient to condemn its general use. In conclusion he mentions quinin hemiglobinuria, of which he claims a number of cases are on record.

Other partakers in the discussion expressed varying views. Dr. Manson considered the prophylactic action only a phase of its curative effect and recommended the use of the microscope in future experiments with quinin as a prophylactic. Dr. Rees, superintendent of the London School of Tropical Medicine, found that its prophylactic action, while it did not prevent, markedly reduced the number of attacks and lessened their severity and mortality. He would use it himself if he should return to a malarial country. The majority of the authorities seemed to be in favor of its prophylactic value.

On the Metamorphosis of the Filaria Sanguinis Hominis in Mosquitoes. S. P. James.—The writer reports his own observations and experiments on the metamorphosis of filaria. He thinks that the statement of Dr. Manson that he was able to observe complete metamorphosis in seven days was probably due to the fact that there are a number of species of mosquitoes, some of them much more favorable hosts than others, and that Dr. Manson's experiments were made with one of the latter. He reports his own experiments, showing how he has found the filaria in the proboscis and apparently favoring the view that the filaria pass directly from mosquito to man without having first existed for some time in water. He believes that the genus Anopheles are capable of acting as efficient hosts as well as the species of the Culex.

Notes on the Etiology of Filariasis.—Maitland disagrees with the view that the common origin of filariasis in the human subject is due to mosquitoes, and holds rather that it is a water-borne disease. He adduces in favor of this the fact that the white race in the tropics is comparatively immune, while the native population suffer, that certain communities having a common supply of drinking water suffer severely from the disease while others taking their supply from different sources are not affected. The immunity of the Europeans is due to their habit of drinking only boiled or filtered water. As an example of water transmission he reports the case of four Eurasian boys who took to bathing in and drinking the water from a certain pond and became simultaneously affected with filariasis. He asks: If the theory of inoculation is correct how is it that persons affected with filariasis can live in intimate association with others and not infect them?

A Discussion on Ankylostomiasis.—The anemic affection attributed to ankylostomiasis is discussed by Giles, who has investigated the subject in Assam; there, the mortality is very high alike amongst the indigenous inhabitants and the imported laborers that come to work in the tea plantations. The question whether this increased mortality is due to malaria plus ankylostomiasis advanced by some authors, he does not discuss; his aim was to study the life history of the worm. The recent view as to its absolute harmlessness, he thinks, is erroneous. Of course, where a large portion of the population suffer from the disease many healthy individuals will also have the parasite without necessarily becoming its victim. His own impression is that it is responsible for a formidable mortality and a still greater amount of sickness wherever it exists.

Fearnside has investigated the subject among convicts and finds that about 72 per cent. of the persons in the district investigated harbor the parasite and remain in good health. He thinks that the figures show that the effects of ankylostomiasis are for the most part secondary and not primary. They seldom occur in such numbers as to cause true ankylostomiasis and the bad effects are mainly the results of such disorders as malaria, dysentery, etc., complicated by ankylostomiasis.

Rogers recognized the anemia produced by long-continued small loss of blood through the gastrointestinal mucosa caused by the presence of several hundred ankylostoma acting for several months, or by a still larger number acting for a short time. This is ankylostomiasis, and it is characterized by the reduction of hemoglobin to nearly twice the extent of that of the red corpuscles; while in the disease called kala-azar and in malaria the red corpuscles and hemoglobin are reduced in a parallel manner. This makes a difference in the treatment of the two forms of anemia; in the one the hemoglobin is being drained away and can be replaced only with great difficulty, especially in vegetable-eating people, and in the other hemoglobin is not lost to the system but is stored up in organic combination in the liver and spleen, whence it can be reabsorbed to restock the red corpuscles as they are turned out. Hence, in ankylostomiasis iron is urgently indicated, while arsenic is of less importance; but in the other form arsenic and bone-marrow are specially indicated, while iron is not urgently required.

Baker notices the prevalence of the condition in Burmah, which he attributes to the habits of the population and absence of night-soil sanitation, thus producing infection. Ross holds that the idea that a certain large number of parasites are required to produce the mischief in this condition is erroneous; 50 ankylostoma might destroy a patient already debilitated by other disease or starvation, and he mentions the possibility of the parasites having also toxic effects.

Tropical Liver Abscess. Kenneth Macleod.—Sporadic evacuation of abscesses of the liver most commonly occurs along the pulmonary route, the principle of progress in the direction of less resistance coming into play. Whether the abscess bursts into the pleural cavity or erupts into or erodes the lungs or produces a secondary abscess must depend on the extent and strength of protective pleuritis to which the progress of pointing has given rise. When the discharge into the pleura is primary the physical signs are characteristic and exploration can make certain the diagnosis. There is then but one line of treatment, that is, to make a free opening and drain under antisepsis. When it finds its way into the substance of the lung, symptoms of diaphragmatic pleurisy and lung consolidation are superimposed on the liver symptoms and if the latter are well marked exploration through the liver and direct drainage by incision is the proper treatment, but frequently the expectoration of a large quantity of pus is the first sign. In favorable cases it may diminish and the patient may make a complete recovery, but in other cases the pus refills and death with hectic symptoms occurs. The question arises, What should be done in these aggravated cases? He criticises the text-book instruction to always incise and drain through the liver, and urges that in these cases it should be treated as one of lung cavity and exploration and incision made through the chest. He bases his opinion on two grounds:

1. While the lung is undergoing destruction, in the liver repairing changes are taking place. 2. He has frequently seen that method followed without success. His objection is, to sum up the matter in a few words, that in the old-standing cases of lung lesion consequent on hepatic abscess the pathologic burden has been transferred from the abdomen to the chest and the relief measures must be applied accordingly, the lung lesion treated according to special indications of the case, and the liver is left to take care of itself.

Subphrenic Abscess. James Cantlie.—In this article on subphrenic abscess Cantlie describes the symptoms and diagnosis, which may be confused with gall-bladder inflammation, and when the history is not obtainable the surgeon must be prepared to meet either of the conditions. The prognosis is generally good. The treatment consists in simply tapping with a large trocar and drainage by a large tube, but incision when adhesions are known to have formed is free from danger, and in one case in his observations it was eminently satisfactory. He demonstrates in his article the position of the inferior vena cava and states that by a study of frozen sections it is possible to ascertain how deeply the needle of the aspirator or trocar can be carried into the liver without causing untoward consequences from hemorrhage. He finds in a body with a circumference over the hepatic area of 32 inches that the center of the inferior vena cava is from 4¼ to 5 inches off the surface, in a line drawn horizontally from the neighborhood of the xiphosternal articulation to the angles of the ribs behind. Before commencing an exploratory puncture of the liver, therefore, Mr. Cantlie recommends that the circumference of the body be taken, and, starting with the above measurement as a basis, a fairly accurate idea of how deep the puncture may be carried is ascertainable. In a body measuring 32 inches in circumference, it is not safe to penetrate deeper than 3¾ inches in a horizontal direction from anywhere in the line mentioned. For every inch of circumferential measurement above or below the 32 inches, ¼ inch may be added to or subtracted from the depth it is safe to penetrate. Abstraction of blood in inflammatory hepatic derangements Mr. Cantlie regards as most salutary. When the needle enters a large vessel in the liver substance, as judged by the free flow of blood in the bottle, he allows the needle to remain until 6 to 10 ounces of blood are withdrawn. No ill effects follow tapping a vein in this position; it is only when the inferior vena cava, or the trunk of the portal vein before it breaks up in the liver, is wounded that a dangerous hemorrhage is likely to follow. Every puncture of the liver by a needle causes a slight or even considerable flow of blood subsequently into the peritoneal cavity, as he had been able to prove clinically; but in all probability it was this very flow of blood which contributed to the marked benefits usually following liver puncture. The dangers of hepatic hemorrhage are confined to puncturing the inferior vena cava, the extrahepatic portion of the portal vein, or penetrating a mass of malignant tissue occupying the liver.

The Diagnosis and Surgical Treatment of Tropical Liver Abscess. W. Johnson Smith.—The writer holds that exploratory puncture is preferable to laparotomy in case of tropical abscess. He sees no good grounds for opening the abdomen unless the repeated use of the needle and syringe has failed. If the characteristic fluid of a liver abscess be drawn up, an operation for allowing it a free discharge should be immediate. Thoracotomy almost always implies a transpleural incision, and while he has found that in an abscess in front requiring an operation adhesions usually exist, yet in the more frequent form of posterior abscess the lung and liver are usually found quite free, and their respective serous cavities quite open. Consequently in this operation we expose two large serous cavities and that doubles the risk of infection. There is also a risk of permitting ingress of air into the pleural sac, causing lung collapse. Notwithstanding these risks, drainage in suitable and favorable cases has on the whole been satisfactory. The surgeon must guard against the risk of infecting the pleura and peritoneum. He has followed the plan of making a thorough incision in both diaphragm and liver so as to allow a full and uninterrupted discharge of the fluid contained in the abscess. He thinks it would be well to apply our tests for both general and local leucocytosis in every case of liver abscess to see if leucocytosis is present.

Annales de la Soc. Med.-Chir. de Liege, June.

Foreign Bodies in the Lungs. E. Gulikers.—A young man supposed that he had swallowed the metal tip of a pencil, about an inch long, but the total absence of pharyngeal reflexes suggested that it might have passed into the air-passages, and a skiagraph showed it horizontally lodged near the eighth rib. The patient coughed and expectorated in the morning, but was not otherwise disturbed by its presence. He was advised to lie on an inclined plane, head downward, which he did for eight days. At the end of this time he felt the foreign body slip down into his throat and, as instructed, he supported himself on his arms, made slowly a deep inspiration, and then, uttering a bass sound—to open his vocal chords—expelled the foreign body without coughing. In the second case a child had inhaled a toy arrow from a blow-gun—a metal pin 1.75 inches in length, with a tuft at the head. It was expelled six months afterward with a vomica, after an interval of recurring pleurisy, hemoptysis and an almost constant cough.

Bulletin de l' Academie de Medicine (Paris), August 21.

Neuropathic Hematuria. E. Lancereaux.—Hemorrhage may occur in the urinary organs of men and women and in the genital organs of the latter, independent of any material disorder, and due solely to a disturbance in innervation. They are more frequent in neuropathic patients and are generally preceded by fatigue, exposure or violent emotion. The treatment should be addressed to the nervous system, after controlling the hemorrhage. and quinin will be found extremely useful, combined with hydrotherapy. He cites several personal cases in which .8 to 1.5 gm. of quinin sulphate arrested the hematuria in a few days. His patients were mostly rheumatic or hemorrhoidal subjects, and he has noticed that the suppression of hemorrhoidal hemorrhages is a frequent preliminary to hematuria. Zambaco has also noted this latter fact, and mentions that injecting the veins of the rectum in a post-mortem preparation from a hemorrhoidal subject is liable to distend simultaneously the veins in the bladder, which, in one instance, were dilated to actual varices. He concludes by stating that the prognosis of neuropathic hematuria is not grave. Its recurrence may lead to anemia, but symptoms of debility are rare and less pronounced in hematuria from vasomotor disturbances than in hemorrhage of any other origin.

Echo Medical (Lille), August 26.

Traumatic Valvular Lesions of the Heart. Castiaux and Laugier.—Both of these authors are prominent in legal medicine and presented this communication at the International Medical Congress. The main points are as follows: Violent contusions of the thorax, whether from a fall or blow, or compression between two resisting bodies, are capable of producing a valvular lesion even in a healthy heart, and still more easily if the organ be diseased. These valvular lesions are almost always immediate—rupture or laceration—but they may also occur later, and only appear subsequent to a myoendocarditis resulting from the traumatism. When they are immediate they produce insufficiency of the injured orifice from the start, liable to be complicated later with pathologic processes from lesions of the endocardium, of some other orifice or of the large vessels of the heart. The aortic is the valve most frequently injured from this cause—25 out of the 36 cases known to date; next the mitral, with 8, and exceptionally the semilunar with 2 and tricuspid with 1. The physical signs are about the same as those of a spontaneous valvular lesion, but the murmurs are more intense and prolonged and the flaps of the valve or torn chordæ floating in the blood current impart a peculiar tone and vibration to the morbid sounds. The prognosis of traumatic insufficiency is more serious than that of spontaneous lesions and the course of the affection is more rapid. The organ is overwhelmed suddenly. Long survival is, however, possible and even recovery, although extremely rare. When a cardiac affection is the result of external traumatism the responsibility of the author of the injury is singularly aggravated. An unpublished case is described in detail. Besides intense signs of aortic insufficiency, there was a holodiastolic, musical, slightly piping "steam tug" murmur.

Branchial Fistula of the Neck. O. Lambert.—The fistula in question was undoubtedly congenital, but remained latent for fifty-six years, when some infection produced a small abscess in it, with perforation outward, thus disclosing its existence for the first time.

Nord Medical (Lille), August 15.

Connection Between Pure Mitral Stenosis and Heredo-Syphilis. Duvivier.—The etiologic influence of inherited syphilis in the production of pure mitral stenosis was unmistakable in thirty cases which Duvivier has collected in the literature. It was likewise probable in two cases he had occasion to observe in Combemale's service. He agrees with Lancereaux that teratology of the heart is merely the pathology of this organ during intrauterine life, and with Huchard that pure mitral stenosis is always congenital.

Pneumonia in the Aged. Lemoine.—Pneumonia in a fresh and well-preserved elderly person runs the same course as in a young adult, but in senile conditions, or when excesses have ruined the constitution, the course of the pneumonia is quite different. The temperature is less by a degree or more than that of typical pneumonia in the adult. The expectoration is less, the sputa greenish and dirty, and the lesions localized at the apex. Sometimes auscultation is entirely negative; the focus is deep and covered with emphysematous portions of the lung. There are seldom crepitant râles; the large subcrepitant râle is ordinarily the only one to be heard, and this may not make its appearance until the close of the disease. Some cases progress to the fourth or fifth day with no manifestations except dry tongue, red at the edges, and temperature not over 38.5 C. The first indication is to diminish the afflux of blood and relieve the distress in breathing. The only revulsive that can be used on these feeble subjects is extensive dry cupping, daily repeated. Puncture is hazardous and respiratory stimulants are preferable. For this Lemoine administers 2 to 6 gm. of ammonium acetate in syrup during the twenty-four hours. It acts directly on the respiratory centers and increases the diuresis. He sustains the heart and general system with digitalis and alcohol. In case of persons habituated to the use of alcohol, musk will be found a powerful substitute tonic. He prescribes .5 gm. musk mixed with one yolk of egg and 150 gm. water, given by the mouth. Or it can be taken in two cachets, .25 gm. each. Give liquid food if possible, preferably milk. It is important to facilitate expectoration, but the usual measures can not be used in these cases, and the best results are attained by administering a stimulant, such as strychnin.

Presse Medicale (Paris), August 22 and 29.

False Cures of Pleurisy. E. Sergent.—A young woman with metapneumonic interlobar pleurisy was apparently cured in consequence of the spontaneous discharge from a vomica auscultated in the middle, posterior axillary region. Pure cultures of pneumococci were obtained from the pus. Two weeks later her right arm was temporarily paralyzed. Although otherwise healthy, the persistence of a vesicular murmur at the point of the vomica suggested that it had not completely healed. During the following year this opinion was confirmed by a rebellious cough, occasional spitting of blood and pus, fever and other symptoms indicating possible tuberculous infection, although the apices were normal. Seventeen months after the primary vomica the patient coughed up a bunch of "membranes and skin and something that looked like strips of tripe." From this moment all symptoms ceased, and the cure has been radical and permanent.

Diffuse Symmetrical Lipomatosis. C. Pestemazoglu.—Two cases are described, and one illustrated, showing the large symmetrical lipomatous masses above the nipples, front and back, and on the median line above, also on the neck. One of the patients had been operated on a few years before and had had a large interscapular lipoma removed. They begged to be relieved of their encumbrances, and five of the masses were removed from one patient. They were not encapsulated, and it was impossible to make the operation complete, as the fat extended behind the muscles, etc. The presternal mass had already commenced to grow again two months after the operation.

Progres Medical (Paris), August 25.

Graft of Severed Terminal Phalanx of Thumb. Salomon.—In a number of cases in which the end of a thumb or finger had been totally severed, Salomon failed to obtain complete restoration of the severed portion until he commenced to use asepsis instead of antisepsis. Since then he has had invariable success, even when a large portion of the finger had been lost. He first keeps the hand for three-quarters of an hour immersed in very hot sterilized water, occasionally renewed, to which a little alcohol has been added. Four catgut stitches then hold the severed portion in place and the finger is packed in cotton.

Semaine Medicale (Paris), August 29.

Overlapping of Auricular and Ventricular Systoles. Potain.—The propulsion produced at the apex during the moment preceding the closing of the auriculo-ventricular valves, and the first bruit is attributed by Potain to the distension of the ventricle by the systole of the auricle. Others ascribe it to the systole of the ventricle itself, and Bard has recently announced that it is due to the overlapping of the systoles, the ventricular systole anticipating the end of the auricular systole, causing what he calls the "*chevauchement des systoles.*" It is due, he believes, to the resistance to the closing of the mitral valve on the part of the hypertrophied auricle. He states that palpation reveals a characteristic hardness at the precordial region just before the closing of the valves, which indicates a contraction of the ventricle—an active and not a passive phenomenon. It does seem as if this "dome shock" were too considerable to be attributed to the contraction of the "despised" auricle alone, as Potain admits. He observes that if he trusted to his impressions alone he would be dubious, but that the Marey instruments positively establish that the true début of the ventricular systole and the true first bruit are synchronous; that the presystolic thrill is a direct result and a sign of mitral stenosis, and that—in spite of appearances to the contrary and his personal impressions—he is convinced that the "choc en dome" is a phenomenon of auricular origin.

Centralbatt f. Chirurgie (Leipsic), August 25 and September 1.

Thermorphor With Ether Mask. Longard.—The ether mask described by this author in the Centralblatt, No. 48, 1898, was found to have the disadvantage that the air condensed inside and ice crystals were liable to form from the evaporation of the ether. This is obviated by a ring-shaped thermophor made to fit around the edge between the netting and the cover, which keeps the temperature considerably above the freezing-point.

Rattan Splints. H. Sarfert.—Wicker-work splints have been found desirable from every point of view by Sarfert, who recommends them on account of their lightness, durability, inexpensiveness, elasticity and porosity for military, general hospital and emergency use.

September 1.

Plastic Restoration of Lower Jaw. W. Sykoff.—A chin was restored after an extensive defect consecutive to noma, by cutting a rectangular piece out of the largest side of the lower maxillary bone and slipping it along to bridge the defect, the farther end resting in a groove hollowed out for it in the other half of the bone. The results were highly satisfactory. A fragment of rib, with the periosteum, would probably have done equally well.

Deutsche Medicinische Wochenschrift (Leipsic), August 30.

Queirolo's Method of Outlining the Stomach. P. Edel.—Comparison of the findings with Queirolo's method and with the other methods in vogue shows that they are identical in the results attained. The former may prove useful at times as a supplementary measure, but in general, inflating the stomach with CO_2 generated by tartaric acid and sodium bicarbonate is sufficient and reliable. Queirolo introduces a sound into the stomach, the lower end of which is inserted in a small bladder. The sound communicates above with a two-branched rubber tube. One branch connects with a Marey drum, the other with the outer air, and through it the bladder is inflated. Percussion over the abdomen does not stir the index, but the moment the limits of the stomach are reached the drum records it at once. The organ can thus be outlined with comparatively little trouble. In one case of stenosis of the pylorus it was impossible to locate the stomach limits by any other method. Percussion is not reliable with an entirely empty stomach. Air or fluid is necessary for the test.

Differentiation of Aneurysms With Radiography. E. Gebauer.—A patient in Grawitz's service, with evidences of an intrathoracic tumor or aneurysm of the aorta, showed on the fluorescent screen a distinctly pulsating tumor just above the heart. The diagnosis of aneurysm of the aorta was made, but the autopsy disclosed a carcinoma of the esophagus, with perforation into the lung, and metastases above. The left bronchus had become adherent to the arch of the aorta, inducing Oliver's sign. The simulated pulsation must have been caused by the rising of the metastatic tumor with the systole of the aorta, and the sidewise movement of the primary tumor with the systole of the descending aorta, to which it was adherent.

Diphtheritic Vulvo-Vaginitis. L. Silberstein.—A case was reported in 1898 of gangrenous vulvo-vaginitis cured with diphtheria antitoxin. It proved equally effectual in the case described in this communication. Two injections of 1000 units were made, it being known that the patient, a child of 4½ years, had been exposed to diphtheria.

Muenchener Medicinische Wochenschrift, August 28.

Significance of the Diazo-Reaction in Tuberculosis. P. F. Becker.—A positive reaction to the diazo test is not necessarily of serious import. It [illegible] in tuberculous subjects in connection with [illegible] complication such as diarrhea, and positive reaction should not be accepted as evidence of a grave prognosis under all circumstances. When it occurs in a disease not usually accompanied by it a complication of an infectious character may be assumed. Certain cases respond with a dubious reaction to the test. The green color is most intense in these dubious cases when positive, but there is a slight greenish tint even with a negative reaction.

Acute Osteomyelitis of the Atlas. Eichel.—Two cases are described in detail, the diagnosis based on the pains, increased by jolting in a wagon or car, the attitude of the head and the neuralgic pains, in one case in the region of the supraorbital nerve. Temperature 38.4 C. Eichel observes that with these symptoms and swelling of the back of the neck, he would operate without waiting for fluctuation, in order to forestall perforation of the pus into the spinal canal. In case tuberculous alterations are discovered he suspends the operation at once and resorts to immobilization and extension as usual, but would not allow the possibility of this contingency to deter him from operating.

Joint and Cutaneous Metastases With Blenorrhea Neonatorum. J. Paulsen.—Pure gonococcus metastases occurred in the joints of a 2-months babe, consecutive to gonorrheal ophthalmia. The skin around the affected joints became edematous, and finally exanthemata appeared, evidently due to invasion from the deeper tissues. One knee required operation and the gonococcus was found pure in the pus and in the surrounding exanthem. Complete restitution was obtained.

Tetanus and Intestinal Occlusion. Krey.—No serum was given in the severe case of traumatic tetanus reported. The case was complicated by acute occlusion from intussusception of the small intestine, requiring laparotomy. The tetanus continued its course for two weeks longer, and then gradually subsided.

Virchow's Archiv f. Path. Anat. (Berlin), July 7.

Criticism of Koch's Malarial Research. J. H. F. Kohlbrugge.—The author of this communication is privat docent of climatology and tropical diseases at Utrecht, and practiced medicine for many years in Java. He claims that Koch's assertions in regard to the immunity against malaria probably acquired in time by natives and foreigners contradict the experience of all practitioners in tropical countries. The longer the residence the more severe the attacks, as a rule. The weak die off and those who survive—of either native children or imported foreigners—are the congenitally more resistant, the élite of more or less naturally immune individuals. He also objects to Koch's deductions that because apes—"the animals closest to man"—proved refractory to malarial inoculations, it is scarcely probable that other animals will prove susceptible. Anthropoids, he points out, are far less close to man, toxicologically at least, than a number of other animals, especially dogs. He asks why Koch did not go to some true malaria-infested district in Java, such as the Djoewana coast, with its 222,000 inhabitants. The report from this district for 1899 stated that 22,000 persons were "down with malaria and the people are dying like rats." Practically the same report is received each year. The population scarcely changes, and it is evident that no immunity has been acquired. The *Deutsche Med. Wochenschrift*, which has published Koch's reports to the Imperial Health Bureau, has refused to insert this or Nuttall's critical articles in Koch's absence.

Wiener Klinische Rundschau, August 26.

Death After Resection of Jugular Vein. C. Ewald.—While a patient in Albert's clinic was having the pharynx and tongue resected, it was found necessary to resect the internal jugular vein on both sides. There was an anastomosis between the internal and anterior jugular veins on one side. The patient had been operated on in a half-sitting posture, and the operation lasted from thirty to forty-five minutes longer. When raised erect to apply the bandages he became cyanotic, but soon recovered. Placed in bed on an inclined plane—head downward—to prevent aspiration of the secretions, the pulse and respiration were normal, but in half an hour he became blue, and raising him erect had no effect. The color gradually returned to normal, but the heart action became weaker and, in spite of artificial respiration and other measures, death ensued in an hour. The face and trunk had become so pale that an internal hemorrhage was surmised, but none was discovered. The dura mater was found pale and the longitudinal sinus empty. The vena cava, portal vein and the viscera were gorged with blood, the heart in fatty degeneration. The brain was edematous and anemic. Ewald attributes the fatal termination to vasomotor disturbances. The cyanosis occasionally noted after resection of both internal jugular veins usually passes away spontaneously in a few days.

Transplantation of Flaps for Atresia Vaginae. S. G. Schalita.—The disadvantages of the usual methods of making a new vagina or curing defects are obviated by the method described by Schalita. He hollows out the passage and dilates it with a speculum for a day or so. Then he inserts a speculum with large fenestræ and applies flaps of mucous membrane taken from the labia or elsewhere to the exposed portions of the vaginal wall. A second plain speculum, a size smaller than the other, is introduced inside the first, to prevent the protrusion of the walls through the opening. Both are left undisturbed for a time and then replaced with a simple speculum. In a case described, the epithelium proliferated in all directions from the flaps, which, with scarcely an exception, healed perfectly in place.

Phosphorus Necrosis. J. Levai.—The arguments presented by Levai demonstrate that the necrosis of the bones in consequence of chronic intoxication with phosphorus is caused primarily by pathologic alterations in the vessels. The direct occasion of the necrosis is some external cause, usually an infection.

Wiener Klinische Wochenschrift, August 30.

Pathogenesis of Icterus. Browicz.—This communication summarizes the results of extensive clinical and experimental research, and was read at the Polish Medical Congress which met at Cracow, July 23. It attributes icterus to an increased functional activity of the normal liver cells, which, under the stimulus of various influences, take up immoderate quantities of food and function-material, especially hemoglobin, and work it over into an excessive output of bile, and of bile-pigment in particular. This excess of bile can be produced only by a normally active, healthy liver cell. The surplus secretion of bile passes into the intercellular biliary passages and is thence absorbed through the walls of the blood capillaries in the acini into the circulation. There is much less proportional absorption through the lymph vessels in the larger biliary passages. This conception of the increased function of normal liver cells and immoderate production of bile explains all varieties of icterus, even the most apparently diverse.

St. Petersburger Medicinische Wochenschrift, August 23.

Acute Polyarthritis Consecutive to Angina Lacunaris. Woloshintsky.—The parents, six children and the cook in a family in Riga passed through a house epidemic of angina lacunaris, and in three of the members acute or subacute articular rheumatism developed in three to six days. The author also had occasion to treat four cases of abortive acute articular rheumatism last year, occurring two to six days after the commencement of a typical angina lacunaris. He ranks the latter as an essential, morbid entity, with general and local symptoms, entirely distinct from the angina of scarlet fever, etc. Pyogenic cocci are always found in it. The joints may be the seat of suppurative processes in genuine articular rheumatism and the clinical picture of pyemia be superposed. In the same way, on the other hand, pure pyemic processes may appear simulating polyarthritis, and it is difficult, even at the autopsy, to determine the primary affection. The frequent complication of erysipelas with polyarthritis supports the assumption of the pyogenic etiology of articular rheumatism.

Anales de Oftalmologia (Mexico), August.

Experimental Study of the Minimum Visual Angle. P. De Obarrio.—In an attempt to repeat and control Wuelfing's experiments and determine the influence of colors on the appreciation of the minimum angle, Obarrio has learned that the minimum visual angle is much smaller than we have been accustomed to assume hitherto, also that the use of colors has no influence on the appreciation of this angle.

Change of Address.

L. C. Bacon, 556 Selby Ave., to 737 Fairmount St., St. Paul, Minn.

R. G. Barnsdale, 420 Main St., Stevens Point, to West Superior, Wis.

E. W. Baum, 3200 Wallace St., to 1129 Lill Ave., Chicago.

C. M. Beall, 1469, to 1259 Kenesaw Ave., Washington, D. C.

Maxwell Benjamin, 196 Alex. Ave., to 30 W. 126th St., New York City.

C. Bock, Petoskey, Mich., to Ft. Wayne, Ind.

Carl Booth, Barnes Medical College, to 3202 Pine St., St. Louis, Mo.

B. J. Callahan, Humboldt, to 521 Locust St., Des Moines, Iowa.

Julia W. Carpenter, Rock Ridge, Watch Hill, R. I., to 908 E. McMillan St., Cincinnati, Ohio.

G. W. Drake, Monteagle, Tenn., to Hollins, Va.

C. M. Dumm, 540 Shaw Ave., McKeesport, to Allegheny County Home, Woodville, Pa.

J. W. Duncan, Gay and Vine Sts., Knoxville, Tenn., to 101½ Whitehall St., Atlanta, Ga.

J. M. Eisenbise, Lawrence, to Fairview, Kan.

W. W. Fugitt, Denton, to Burtonville, Ky.

M. D. Gibbs, Altman, to Touraine, Col.

H. K. Gorsuch, 808 N. Carrollton Ave., to N. W. Cor. Biddle and McCulloch, Sts., Baltimore, Md.

S. P. Hart, Auburn, to Waverly, Ill.

D. M. Harvey, 419 Third St., to 195 S. Park St., San Francisco, Cal.

Edwin C. Hixon, Nonquitt, to 1174 Massachusetts Ave., Cambridge, Mass.

W. B. Holden, 42 Hanover, to 210 Kalamazoo St., Battle Creek, Mich.

H. P. Howard, Alexandria, to Lexington, Va.

T. V. Hubbard, Fitten Bldg., to Austell Bldg., Atlanta, Ga.

P. H. Irish, Brainerd, to Akely, Minn.

D. J. Jones, Lisbon, to Girard, Ohio.

H. H. Kleinpell, 213 S. Hoyne Ave., to 35 Rush St., Chicago.

I. N. Love, 4661 Maryland Ave., St. Louis, Mo., to Hotel Iroquois, New York City.

C. F. McGahan, Bethlehem, N. H., to Aiken, S. C.

J. B. Mears, Keller, to University of Virginia, Charlottesville, Va.

C. B. Miller, Scranton, to Vinland, Kan.

E. L. Mitchell, Roseville, to Monmouth, Ill.

Thor. Moeller, Hillsboro, to St. John, N. D.

J. H. Oakley, M. H. S., Queenstown, Ireland, to U. S. Marine-Hospital Service, Evansville, Ind.

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W. M. Reitzel, Bremen, to Waterville, Kan.

E. B. Rhodes, Vassar, to 36 Mt. Union St., E., Cleveland, Ohio.

G. F. Seaman, 209 19th St., to 315 Goldsmith Bldg., Milwaukee, Wis.

F. E. Sellers, Mauzy, to University of Virginia, Charlottesville, Va.

J. N. Shaff, 856 Polk St., to 766 N. Park Ave., Chicago.

E. A. Sherrer, San Carlos, to Ft. Grant, Ariz.

J. G. Spenzer, 341½ Prospect St., to 716 Rose Bldg., Cleveland, Ohio.

A. M. Underwood, Grove Beach, Conn., to Lancaster, Pa.

W. S. Wells, Ney, Ohio, to Adamsville, R. I.

Elizabeth White, St. Luke's Hospital, New York City, to Romney, W. Va.

L. D. Wilson, 12th St., to 1132 Chapline St., Wheeling, W. Va.

C. W. Womack, Tullahoma, Tenn., to S. A. F., College, San Antonio, Tex.

H. A. Wright, Linkville, Ore., to Wilbur, Wash.

Queries and Minor Notes.

ANXIOUS TO BE A QUACK.

The following is clipped from a Chicago newspaper; the last qualification, certainly, ought to get the position desired:

Situation Wanted—By physician with an advertising specialist; competent to conduct correspondence, hold the chair, and good feetaker.

COMMISSION TO OPHTHALMIC SURGEONS.

Atlanta, Ga., Sept. 14, 1900.

To the Editor:—Six years ago, when I began the practice of ophthalmology in this city, the leading optical house approached me with the proposition that if I would send to them all of my prescription work they would allow me one-third of the amount paid them by the patient on each prescription, and at the end of the month send me a check on this basis for the number of prescriptions received. I immediately declined such an offer on the grounds that it was dishonest to make the patient pay me twice; rather preferring the reduction should be made in favor of the patient at the time of purchasing the glasses. This rule I have strictly adhered to, although the opticians will not give this reduction to the purchaser, claiming that they cannot afford to have two prices for customers. This same optical house has recently told me that such a contract between oculist and optician is practiced in all the large cities, as New York and Chicago, and this, too, by the leading men in the profession. I should certainly like to know the truth of this statement and whether such practices *are considered ethical* Dunbar Roy.

Ans.—The above query was submitted to Dr. Casey A. Wood, editor of the *Ophthalmic Record*, who sends the following reply:

"Dr. Dunbar Roy's query may, so far as it relates to the city of Chicago, be safely answered in the negative. It is not a common practice for the optician to pay the ophthalmic surgeon a commission on glasses furnished by him, nor would such a practice be considered ethical. I believe I am voicing the sentiment of the profession in this city when I say that such a doubtful method could not be generally practiced and be long kept a secret. A number of perfectly reputable ophthalmologists furnish glasses to their patients just as certain other physicians dispense their own drugs, and doubtless there are arguments that may be advanced in favor of this plan, but I am not acquainted with a single confrère who is willing to defend the practice of accepting commissions from the optician. If one exists, Dr. Roy's note furnishes *an excellent opportunity for him to come forward and show cause* for such conduct. Casey A. Wood, M.D."

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., August 29 to September 4, 1900, inclusive:

William F. Bernart, acting asst.-surgeon, relieved from duty at the Army and Navy General Hospital, Hot Springs, Ark., for annulment of contract.

George M. Bradfield, acting asst.-surgeon, previous orders revoked; on being relieved by Acting Asst.-Surgeon Harold W. Cowper, he will proceed to Philadelphia, Pa., for annulment of contract.

Henry R. Carter, jr., acting asst.-surgeon, relieved from the Department of the Columbia for assignment with troops going on foreign service.

Harold W. Cowper, acting asst.-surgeon, from the Department of Porto Rico to Fort Ontario, N. Y., to relieve Acting Asst.-Surgeon Bradfield.

Joseph J. Curry, acting asst.-surgeon, now at Zanesville, Ohio, on the expiration of his present sick leave to duty at the Army and Navy General Hospital, Hot Springs, Ark.

Orlando Ducker, major and surgeon, U. S. Vols., honorably discharged from service, to take effect September 30, 1900.

Thomas G. Holmes, acting asst.-surgeon, from Fort Wright, Wash., to acompany Cops. "B" and "M," 24th U. S. Infantry, to Manila, P. I.

David J. Johnson, acting asst.-surgeon, previous orders revoked.

Henry S. Kilbourne, major and surgeon, U. S. A., member of a board to prepare a comprehensive plan for the location of new buildings, roads and walks at Fort Hamilton, N. Y.

Elmer E. Mansfield, acting asst.-surgeon, from Wilmer to San Antonio, Tex., for duty with the 25th U. S. Infantry under orders for foreign service.

William E. Richards, lieutenant and asst.-surgeon, U. S. A., previous orders revoked; leave of absence granted.

William J. S. Stewart, acting asst.-surgeon, from Vineyard Haven, Mass., to Fort Slocum, N. Y., to accompany recruits to the Philippine Islands.

Charles K. Winne, major and surgeon, U. S. A., from Fort Crook, Nebr., to duty at Fort Porter, N. Y.

Marshall W. Wood, major and surgeon, U. S. A., leave of absence granted.

The following acting assistant-surgeons have been directed to proceed from the places designated to San Franciscl, Cal., for assignment to duty with troops destined for foreign service: Charles L. Baker, Duffield, West Va.; John L. Burkart, Grand Rapids, Mich.; Max F. Clausius, Barrington, Ill.; Samuel C. Lindsay, Salineville, Ohio; Irvine W. Patton, Huntsville, Ala.; George M. Ekwurzel, Philadelphia, Pa.; Charles A. Ross, Leopold, Ind.; Charles R. Reynolds, Philadelphia, Pa.

Navy Changes.

Changes in the Medical Corps of the U. S. Navy for the week ending Sept. 8, 1900:

Asst.-Surgeon E. V. Armstrong, granted sick leave for one month.

P. A. Surgeon C. M. DeValin, ordered to additional duty at the navy yard, Portsmouth, N. H.

Asst.-Surgeon A. G. Grunwell, detached from the *Monocacy* and ordered to the *Brooklyn* by commander-in-chief of Asiatic Station.

Asst.-Surgeon T. M. Lippitt, detached from the *Newark* and ordered to the *Monocacy*.

Surgeon A. C. H. Russell, detached from the naval hospital, Yokohama, Japan, and ordered to proceed home and to wait orders.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commisioned officers for the U. S. Marine-Hospital service for the seven days ending Sept. 6, 1900:

Surgeon D. A. Carmichael, detailed as chief quarantine officer Territory of Hawaii.

Surgeon J. H. White, to proceed to New York City, for special temporary duty.

P. A. Surgeon A. R. Thomas, relieved from duty at London, England, and assigned to duty in the office of the U. S. consul at Glasgow, Scotland.

Asst.-Surgeon C. H. Lavinder, detailed as chief quarantine officer of Porto Rico.

Asst.-Surgeon J. F., Anderson, relieved from duty at Vienna, Austria, and assigned to duty in the office of the U. S. Consul-General at London, England.

Asst.-Surgeon J. W. Kerr, relieved from duty at Honolulu, H. I., and directed to proceed to Hongkong, China, for duty in the office of the U. S. consul.

Asst.-Surgeon G. M. Corput, granted five days' extension of leave of absence.

Hospital Steward E. S. Maguire, upon being relieved by Hospital Steward Charles Miller, to proceed to Fort Stanton, N. M., and report to medical officer in command for duty and assignment to quarters.

Hospital Steward Charles Miller, relieved from duty at Detroit, Mich., and directed to proceed to New York (Stapleton) and report to medical officer in command for duty and assignment to quarters.

Hospital Steward C. H. Woods, relieved from duty at Cairo, Ill., and directed to proceed to Chicago, Ill., and report to medical officer in command for duty and assignment to quarters.

Hospital Steward H. V. LaGrange, on expiration of leave of absence relieved from duty at Fort Stanton, N. M., and directed to proceed to Cairo, Ill., and report to medical officer in command for duty and assignment to quarters.

Hospital Steward Edward Rogers, upon being relieved by Hospital Steward C. H. Woods, to proceed to Detroit, Mich., and report to medical officer in command for duty and assignment to quarters.

Hospital Steward Mark H. Watters, directed to report to medical officer in command at Chicago, Ill., for temporary duty and assignment to quarters.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Sept. 8, 1900:

SMALLPOX—UNITED STATES

Alaska: Nome, Aug. 11, 6 cases.

Louisiana: New Orleans, Aug. 25-Sept. 1, 4 cases, 1 death.

Minnesota: Minneapolis, Aug. 18-25, 2 cases; Winona, Aug. 21-28, 2 cases.

Ohio: Cleveland, Aug. 26-Sept. 1, 9 cases; Portsmouth, Aug. 26-Sept. 1, 3 cases.

Utah: Salt Lake City, Aug. 19-Sept. 1, 4 cases.

SMALLPOX—FOREIGN.

Austria: Prague, Aug. 11-18, 1 case.

Brazil: Pernambuco, July 1-15, 1 death.

England: Liverpool, Aug. 11-18, 2 cases.

France: Paris, Aug. 5-18, 5 deaths.

Gibraltar: Aug. 12-19, 1 case.

India: Calcutta, July 28-Aug. 4, 10 deaths; Madras, July 28-Aug. 3, 2 deaths.

Japan: Formosa, June 1-30, 39 cases, 3 deaths.

Mexico: City of Mexico, Aug. 19-26, 8 cases, 1 death; Vera Cruz, Aug. 19-Sept. 1, 2 deaths.

Russia: Moscow, Aug. 5-11, 4 cases; Odessa, Aug. 11-18, 8 cases, 5 deaths; Warsaw, Aug. 4-11, 6 deaths.

Scotland: Dundee, Aug. 19-25, 1 case; Glasgow, Aug. 17-24, 28 cases.

Spain: Corunna, Aug. 11-18, 1 death; Madrid, July 28-Aug. 11, 63 deaths.

YELLOW FEVER

Colombia: Bocas del Toro, Sept. 1, 1 case; Cartagena, Aug. 3-17, 3 cases, 3 deaths; Panama, Aug. 20-27, 3 cases, 1 death.

Cuba: Batabona, Aug. 18-25, 1 case; Havana, Aug. 15-20, 9 cases.

Mexico: City of Mexico, Aug. 19-26, 1 death; Vera Cruz, Aug. 19-Sept. 1, 23 deaths.

West Africa: Dakar, Aug. 15, 14 cases; St. Louis, Aug. 15, 24 cases, 2 deaths.

CHOLERA

India: Calcutta, July 28-Aug. 4, 18 deaths; Madras, July 27-Aug. 3, 13 deaths.

Japan: Yokohama, July 28-Aug. 4, 1 case.

PLAGUE

China: Amoy, July 7-28, 1150 deaths; Hongkong, July 14-28, 78 deaths.

India: Calcutta, July 28-Aug. 4, 41 deaths.

Japan: Formosa, June 1-July 26, 167 cases, 135 deaths.

Philippines: Manila, July 10-17, 1 death.

Straits Settlements: Singapore, July 14-21, 1 death.

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Original Articles.

TECHNIQUE OF VAGINAL EXTIRPATION FOR CANCER OF THE CERVIX BY LIGATURE ONLY*

RUFUS B. HALL, A.M., M.D.
CINCINNATI, OHIO.

It would hardly seem necessary before this audience to emphasize the importance of careful preparation of the patient before subjecting her to such a serious operation as the one to be considered. Yet this is a very important element in the after-management and in bringing a case of hysterectomy for cancer to a successful termination. These patients should be as carefully prepared for the operation as though they were about to be subjected to an abdominal section. It is especially desirous that the function of the kidneys be carefully investigated in every instance and every defect noted and corrected if possible. It is always advantageous in this preliminary treatment to keep the patient under observation for a few days.

The anesthetic selected should be chloroform in every instance, unless it is contraindicated from heart lesions, or, as is the case in rare instances, where the patient does not take the chloroform kindly. Then ether should be substituted.

The extreme lithotomy position should be used. The perineum should be retracted by a short, broad speculum. An instrument with a blade an inch and three-quarters long and an inch and a half to two inches broad is to be preferred, with such other retractors as the operator may deem necessary. The writer uses one or two narrow short-beaked retractors.

If the disease in the cervix is a large sloughing mass with or without severe hemorrhage, or if it is an epithelioma filling the upper half of the vagina, it is advantageous to do the operation in two stages. First, give an anesthetic and with a sharp curette cut away all of the soft tissue, and then with a thermocautery cauterize deeply all the raw surface. Postpone the radical operation for ten days or two weeks. At this time it will be found that there is an apparently healthy granulating surface, greatly contracted, and with none of that disagreeable stench which is always present in the condition just described. By this plan there will be less danger of infection. If the case is one that has recently lost much blood and still continues to bleed, this will stop the bleeding and give time to recuperate her strength somewhat. If it is proposed to do the radical operation the patient should be properly prepared and anesthetized, and then placed in the lithotomy position with the "clover crutch" applied. There should be an assistant standing at each side of the patient to steady the limbs and assist in holding the retractors, instruments, etc. The vagina should be thoroughly cleansed, the sharp curette again used and all the soft tissue cut away. The uterus should be curetted when indicated. The raw surface should again be cauterized with the thermocautery, and the vagina again thoroughly cleansed and irrigated with a 1 to 1000 solution of bichlorid of mercury.

It has been asserted with great positiveness by Cheyne and others that in operations for cancer, where the operator is compelled to cut through the cancerous tissue, there is great danger of disseminating cancerous cells over healthy tissue in the subsequent steps of the operation. This is the probable cause of recurrence later in a great many instances. Whether we accept this view or not, the thorough curetting and subsequent cauterizing, by preventing infection, adds to the safety of the patient. This also prevents bringing the cancerous tissue in contact with the healthy tissues in the subsequent steps of the radical operation.

The cervix should be fixed with a strong vulsellum forceps. The vaginal mucous membrane should be divided clear around the cervix with a knife or scissors. It should be divided a good, safe distance from the diseased area, usually a half inch or more, as indicated by the extension of the disease, and this cuff-like piece of mucous membrane then dissected back to its attachment to the uterus. This can be readily done by blunt dissection, with an occasional nick with the scissors. The bladder is detached from the uterus and the peritoneal cavity opened in front. The right and left index fingers are placed in the wound and widely separated. This part of the operation should be carefully carried out so as to push the ureters with the adjacent tissues far aside. As soon as this has been accomplished, a gauze pad $3\frac{1}{2}$ by 5 inches, with a stout ligature attached, is passed into the peritoneal cavity and left resting on the uterus. The peritoneal cavity is again opened behind the uterus and the tissues pushed laterally as far as possible. The uterus now remains attached to the broad ligaments only. The operator places his first ligature at this stage of the operation. This should be a very heavy silk twist and the same material used for all the ligatures. The writer usually uses the Cleveland ligature-carrier for this purpose. He has a trusted assistant sitting to his left, whose duty it is to place the ligature in the carrier.

If the disease is more marked on one side of the uterus than it is on the other, which is usually true, he selects the healthy side for his first ligature. This is tied tightly, including a bite of tissue not thicker than a lead pencil. When the knot is thoroughly secured the tissue included is divided, leaving a good button of tissue to prevent slipping of the ligature, and one end cut short. If the disease is not far advanced, a ligature can be placed on the opposite side and treated likewise.

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*Presented to the Section on Obstetrics and Diseases of Women, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

This can be repeated, going from one side to the other alternately, the uterus gradually descending, until the operator is able to pass a ligature over the top of the broad ligament on one side. For this maneuver the Rickett's ligature-carrier is the best I have seen. Every ligature must be tied as carefully as though the operator expected to secure one of the main arteries in its bite. This is the only way to insure perfect hemostasis. It is important not to secure too large a bite of tissue in any one ligature. As soon as one broad ligament has been divided, the uterus can be turned aside and brought out of the vagina. Then the remaining broad ligament can be ligated from above and the ligature placed outside of the ovary and tube. This is important from the fact that the tubes are favorite channels for the extension of malignant disease. Therefore the tubes and ovaries should always be removed in cancer of the uterus. It is not always possible to place the ligature outside of the ovary and tube before the first broad ligament is divided, but after the uterus has been removed, as indicated, the operator can readily place a second ligature beyond the ovary and tube of the first broad ligament divided, and remove them. In this operation there will frequently, in fact, usually, be from six to ten ligatures on either side. The operation is almost a bloodless one. It is very unusual indeed for a patient to lose more than an ounce or two of blood.

The gauze pads placed early in the operation come into view now. They serve to protect the intestines and omentum and to prevent them from coming into the field of operation. They also absorb any blood that is lost during the operation. The bunch of ligatures on either side are now secured by tying one of the ligatures around the rest on that side, and are given into the care of the assistant. The peritoneal edges of the wound are united at the pelvic brim above the ligatures in the following manner:

A Hagedorn needle is threaded with catgut and passed through the anterior flap of the peritoneum near the angle. It then catches up the peritoneum on the broad ligament half an inch beyond the last ligature, then again catches up the peritoneum on the posterior wall near the angle. The ligature is then knotted. This brings peritoneum to peritoneum beyond the topmost ligature. This stitch is continued from one peritoneal flap to another in a running suture until the middle line is reached, then it is drawn taut. This ligature is given into the hands of an assistant. A like maneuver is carried out on the opposite side, except that the ligature is not drawn taut until after the gauze pads are removed. The gauze sponges are removed from the peritoneal cavity, and with a bit of gauze in the bite of a forceps the blood, if any, is removed from the pelvic cavity. By pulling on the ends of the catgut ligatures the peritoneum is nicely adjusted throughout from one pelvic brim to the other, but not so tightly that the blood can not escape from the pelvis for the first few hours. The two ends of the catgut are in apposition in the middle line, and are knotted and cut short. The vagina is packed snugly with iodoform gauze resting against the peritoneum. This is not disturbed for four days, during which time the patient is catheterized as occasion may require. The gauze is removed on the fourth day and not replaced, and the patient is given a hot vaginal douche. This is repeated at short intervals and she is permitted to void her urine.

The use of the ligature in this operation in place of the clamp is a distinct advance in surgery and should always be preferred. There is less suffering and an easier convalescence. In the operation with the ligature, if the disease is far advanced on one side, the operator can place the ligatures on the healthy side until he divides the broad ligament and turns the uterus out of the vagina. He can then work from above downward and enucleate the indurated cancerous tissue far out into the broad ligament. This maneuver would be totally impossible by the clamp method. The writer has performed this feat on a number of occasions and has been surprised at the ease with which it was accomplished on cases that would have to be refused operation by the clamp method, or the operator would be compelled to leave the cancerous tissue in the broad ligament.

The danger of dividing the ureters is always present, but the writer does not believe that it is always necessary to pass a bougie into the ureter. By opening the peritoneal cavity freely in front and pressing the tissues and ureters far from the middle line, with ordinary care, it would be rare indeed that a ureter would be ligated or divided in a case that should legitimately be operated on for cancer.

One of the great advantages in operating with the ligature is the fact that the peritoneum can be closed as accurately after the operation as in a median section. This is thoroughly closed by plastic exudation long before pus is formed, thus closing the cavity from danger of infection. If the gauze packing is allowed to remain three or four days, the peritoneum will be thoroughly united and the danger of infection and subsequent intestinal obstruction will be very small. Not a single case of infection or obstruction has occurred in something over 100 operations made by the writer.

ABDOMINAL VS. VAGINAL HYSTERECTOMY FOR UTERINE CARCINOMA.*

JOHN B. DEAVER, M.D.
SURGEON-IN-CHIEF OF THE GERMAN HOSPITAL.
PHILADELPHIA.

The choice of route for hysterectomy must be selected for each case. It is my desire to present a concise résumé of the reasons for each, and the advantages they offer in the cases to which they are applicable.

The views laid down are those of the general surgeon, and are based on an experience in this work that justifies, I think, an opinion. It has been claimed that vaginal hysterectomy is an operation that requires special training and attention to detail and technique which can only be acquired by the specialist. I can not, however, allow this statement to go unchallenged, for I believe that the general surgeon, with his larger field and constant application to detailed technique, is equally well, if not better, equipped to perform every operation of gynecology than is the specialist himself.

Who to-day, but in exceptional instances, would dream of amputating a carcinomatous mammary gland and leave *in situ* the axillary chains of lymphatics whether they be macroscopically infected or not, and yet how many of the leaders of gynecology recommend or perform themselves the complete operation for carcinoma of the uterus? Carcinoma of the uterus is a very common disease, not more so to-day than formerly, but with increased knowledge and diagnostic skill we are able to discover and remove, in good time, uteri that otherwise would soon end in the destruction of the patient.

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*Presented to the Section on Obstetrics and Diseases of Women, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

I favor and perform abdominal hysterectomy for the great majority of cases of uterine carcinoma, although I grant there are cases where the vaginal operation may be the better. That the vaginal operation offers any advantages over the abdominal route is with me a question. I know of no condition indicating vaginal hysterectomy which possibly can not be better dealt with by the abdominal route.

For the sake of clearness and logical reasoning I propose to take up the different points for discussion in the order laid down in the synopsis in the ASSOCIATION program.

REMOVAL OF THE PELVIC GLANDS.

For the purpose of refreshing our memory I will give a brief account of the lymphatic glands and their connecting channels which are involved in the morbid processes of the uterus. The superficial lymphatics of the uterus, together with those of the ovaries and the Fallopian tubes, empty into the lumbar glands. They lie beneath the peritoneum and are joined by those from the substance of the fundus and the upper portion of the body of the organ; together they run outward, in the broad ligament, when they are joined by the lymphatics from the ovaries, Fallopian tubes and vagina to pass up with the ovarian vessels to the lumbar glands. The lymphatics from the lower part of the uterus and from the cervix of the uterus run together with most of the lymphatics of the vagina along the course of the uterine and vaginal vessels, and terminate in the internal iliac glands. The lymphatics from the lower part of the vagina join the superficial inguinal glands.

We therefore have two chains of lymphatics to consider, and while the chains nearest the disease are probably engaged in draining the part, it is not unusual to have both the upper and lower chains on one or both sides involved, necessitating their removal, if we wish to give the patient the only possible hope of recovery.

In late carcinoma or even in the early stage of rapidly advancing disease, if there is macroscopical involvement of the broad ligament, any operation short of total extirpation of the lymphatics of the pelvic organs had better not be attempted.

The abdominal operation offers the only way by which we can perform a complete hysterectomy. The incision must be a long one, the intestines and omentum kept away from the field of operation by gauze packing, the wound widely retracted, and the light good in order to perform so delicate and intricate an operation.

BETTER AREA FOR COMPLETE EXTIRPATION OF CARCINOMATOUS TISSUE.

The reasons given for the first heading hold good for the second. I can not conceive of skill so great which would make a dissection of a carcinomatous broad ligament as easy or as complete through the vagina as by the abdominal route.

LESSENED DANGER TO URETERS.

The weak spot of vaginal hysterectomy has always been the danger of injury to the ureters. As a matter of fact the ureters are in danger of injury by either route, but it seems to me that the danger is less by the abdominal route, for the evident reason that one can see what he is doing and is therefore better enabled to protect these important structures. Granting that either ureter has been torn in the removal of the carcinomatous uterus, the repairing must be done through an abdominal incision, and if it has happened in the course of a vaginal hysterectomy the abdomen must therefore be opened.

CATHETERIZATION OF URETERS UNNECESSARY.

It has been recommended by some of the advocates of vaginal hysterectomy that the ureters should be catheterized as a preliminary step. If for no other reason than this I prefer the abdominal route. From unpublished evidence which I have been able to collect, this step of the operation of catheterization of the ureters is almost as frequently a failure as a success. This uncertainty, combined with the actual danger of kidney infection and the injury of the urethra from over-stretching, is a strong argument to me against the vaginal route. I can not, however, grant that catheterization of the ureters is an essential part of vaginal hysterectomy.

Where the broad ligaments are involved in the carcinomatous process, if only to the degree of being slightly rigid, it is extremely difficult, if not impossible, to make out the ureters. Under these circumstances catheterization would be wise were it not for the fact that such cases, if not attacked through the abdomen, had better be left alone, as incomplete operation offers nothing to the patient, in fact hastens the progress of the disease.

LESSENED DANGER OF HEMORRHAGE.

There is undoubtedly greater danger of hemorrhage in vaginal hysterectomy for carcinoma of the uterus, although hemorrhage is liable to occur in either operaiton on account of distorted, displaced or degenerated vessels. *It is simply a matter of increased facility* for seeing the locality of hemorrhage that gives the advantage to the abdominal method. In vaginal hysterectomy we are working at the bottom of a dark passageway, and when, in addition to this, the field of operation is covered with blood, any accuracy in manipulation is out of the question. Ligation of the ovarian and uterine arteries is a very simple matter in abdominal hysterectomy for uterine carcinoma on account of the ease with which the site of operation can be exposed.

CONSECUTIVE HEMORRHAGE LESS LIABLE TO OCCUR.

The better command of the field of operation secured by the abdominal route makes the placing of the ligatures on the vessels so much more accurate and secure that consecutive hemorrhage is not only less liable to occur, but as a matter of fact is a very rare accident. When it does occur we can with good reason suspect the ligature material or carelessness.

DANGER OF INFECTING PERITONEUM LESSENED.

The use of the Trendelenburg position, with occlusion of the general peritoneal cavity and its contents by gauze packing, minimizes the risk of infection.

In vaginal hysterectomy the intestines are liable to come in contact with the fingers, instruments, ligatures, etc., which have traversed the vagina, that, in cases of carcinoma, or in any inflammatory or infectious disease, is never rendered sterile. In fact, I have very serious doubts as to the sterilization of any vagina. It is claimed that the upper portion is normally sterile, but a vagina which is patulous and which is not virgin, is, so far as I know, a fertile soil for pathologic organisms, although they remain inactive, pathologically speaking, until circumstances arise favoring activity.

Under this heading comes the question of drainage. I believe that most of the cases of abdominal hysterectomy should not be drained. When, however, drainage is needed it should be supravaginal. Vaginal hysterectomies call for gauze drainage in all cases.

NO DANGER OF PROLAPSING BOWEL.

In total removal of the uterus, be it by the vaginal or abdominal route, there is danger of prolapsing bowel, but by the more perfect closure of the peritoneum from above, the danger is lessened in the latter method. The abdominal incision makes a subsequent ventral hernia a possibility to be considered, but with the combination of the interrupted and the tier or layer suture and careful approximation of muscle to muscle, the danger is practically nil.

Vaginal hysterectomy is an operation which presents no special difficulties in the class of cases to which it is applicable. It is only applicable in those cases where the carcinomatous process is strictly confined to the vaginal portion of the cervix, the cervical or uterine canal, and where the uterus is freely movable. In cases where there are adhesions fixing the organ, or where there is or has been inflammation or fixation of the appendages, the abdominal operation is safer, easier and a more rational procedure. Any enlargement of the uterus vastly increases the difficulties of the operation and offers another objection to vaginal hysterectomy.

IMPORTANCE OF EARLY RECOGNITION OF CANCER OF THE UTERUS.*

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The importance of early diagnosis and prompt surgical interference in carcinomatous disease of the uterus has been so repeatedly and emphatically emphasized by all writers, and the various methods and innumerable forms of technique discussed that I feel much like offering some apology for again asking your attention to the subject of carcinoma of the uterus.

However, it is not so much its early diagnosis or the manifold methods of technique in vogue of which I wish to speak a few words, but the manner of its recurrence as we have but recently learned from laboratory research and clinical experience.

It is well established that practically the only form of cancer which attacks the body of the uterus is the adenocarcinomatous variety. This is also of the most frequent occurrence in the cervix. The epitheliomata are usually confined to the vaginal portion of the cervix, and extend to the vaginal walls, and even when large areas become involved are less liable to give early metastasis.

The epitheliomatous nodular masses occurring in the cervix—resembling in their earlier state the pathologic characteristics of the scirrhus variety common in the breast—are slow to give rise to metastasis, and offer the best chance against a recurrence after a complete extirpation of the organ.

There are three modes of recurrence which are recognized by most authorities: 1, by metastasis—by far the most common—a lymphatic involvement; 2, by incomplete removal of carcinomatous areas; 3, by infection or direct implantation of carcinomatous cells in previously healthy tissue at the time of operation. Practically I regard this latter of little account, although I take every precaution to avoid such an infection.

I believe it is of vital importance to know the original seat of the malignant growth, and particularly should its pathologic variety be determined by a careful microscopic examination before operation. For, if it is found to have arisen in the cervix, and is of the adenocarcinomatous variety, we have to recall the fact that a recurrence is apt to be metastatic; if of the portio vaginalis, a recurrence is most apt to be in the seat of the resulting scar by incomplete removal of infected areas in the vaginal walls.

A few words as to what has been learned in regard to recurrence. I need say nothing further about incomplete extirpation or infection, as these subjects are easily understood and readily appreciated.

Perhaps some of you may recall cases of puerperal infection through an injury to the cervix in which a rapid spread of infection has quickly given rise to a general septicemia, and in which cases the condition of the uterus and its adnexa seemed to be but slightly implicated.

An instance of this occurred at the City Hospital last autumn. A young woman was admitted having a temperature of 106 F.; and a pulse-rate of 130. She had some tenderness and enlargement of both the liver and spleen, and was treated for ten days as a typhoid with no good results from the ordinary tub baths. No history referable to a diseased uterus could be had. To settle this point, however, I was asked to see the case. I found a swollen cervix, an enlarged uterus with its normal mobility somewhat impaired, with induration in both broad ligaments. Cultures were made from the cervical canal and a streptococcus was found to be the exciting cause. An injury to the cervix by an unclean instrument, direct infection of the glands in the parametrium, and the general lymphatic infection were the successive steps. With continued rest in bed the patient's local condition entirely subsided, and excepting the result of a septic myocarditis she had quite recovered. This is not an uncommon result where abscesses do not form in the affected glands. Again the tubes or ovaries become involved by direct lymphatic infection and the body of the uterus remains free of the disease.

To understand the course of such infection a knowledge of the lymphatic system must be gained. The same comprehension of this particular anatomic feature must be had to appreciate the difficulties to be overcome by the surgeon who operates for carcinoma of the uterus.

I must frankly admit that we clinicians are indebted to the men who devote their time to laboratory work for the advances which we are making to-day in this field, and our ready acceptance of their results show our appreciation of the worth of such research work.

I quote W. W. Russell of Johns Hopkins University: "The direction of the lymph vessels supplying the different portions of the uterus and vagina, and the position of their glands, can be separated into three distinct groups. The first group corresponds to the uterine vessel and its terminal branches, and supplies the upper one-third of vagina and cervix. The first glands connected with this group are found in the parametrium at the broad-ligament bases, a short distance from the cervix. They are not constant, and when present are often so small that they are frequently not discovered during operation. The most important glands belonging to this group are those lying about the iliac vessels at their dividing point.

"The second group is comprised of the lymphatic vessels supplying the greater portion of the uterine body. They converge from the fundus and body, and gradually unite into two large vessels which pass outward along the upper surface of the broad ligament in close relation to the ovarian arteries. From their course it is seen that they pass between the tube and ovary. The first glands met with in this group are those in the lumbar region situated at about the level of the lower border of the kidney, directly in front of the aortic vessels and partly surrounding them.

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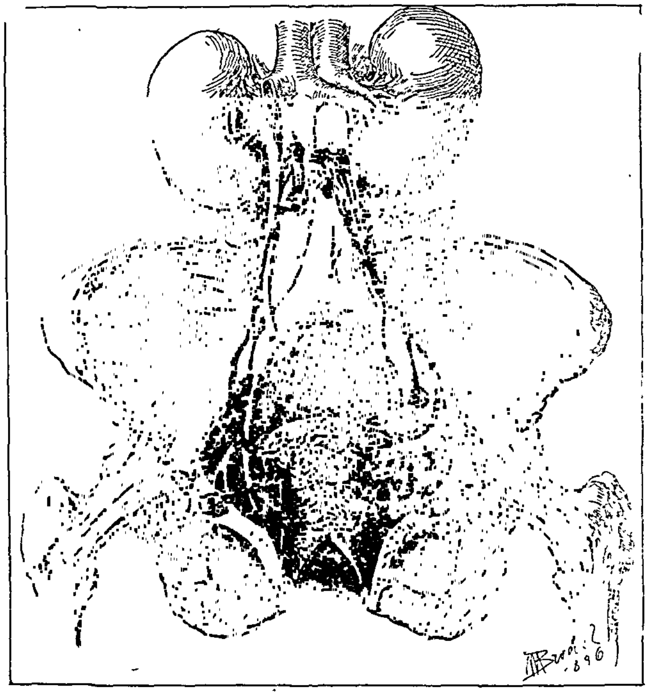
"The third group consists of vessels originating in the uterine cornu and passing out into the round ligament to the inguinal glands. One large vessel on either side of the uterus gives free anastomosis between body and cervix.

"The practical import of this division is as follows: There exist three avenues of escape for malignant growths of the uterus. The first group of these vessels must always be considered in disease of the cervical canal and vaginal portion of cervix, and the second and third groups in disease of the fundus, and it is through these, and these only, according to their separate divisions, that metastases are of operative significance. When the disease has passed beyond the limits of either group, rendering possible the invasion of the lymph vessels of the body by growths originating in the cervix, **or vice versa, all chance of complete removal is gone.**"



Russell.—Lymphatics of uterus and upper third of vagina.

My results in the last three years show so far one recurrence of the adenocarcinoma of the body of the uterus. In this case I performed a vaginal hysterectomy by clamps and inadvertently left a loop of the right tube in the grasp of the clamp. Microscopic examination of the portion of the tube removed showed an involvement at its extreme proximal, but free at its distal, extremity, where it had been clamped. However, in six months there was an involvement of the whole cecum, and I am forced to believe it was due to an *incomplete* removal.

I operated in 1899 upon three particularly interesting and instructive cases of adenocarcinoma of the cervix. Two are dead, one still lives but there is already evidence of some involvement in the glands at the base of the right broad ligament.

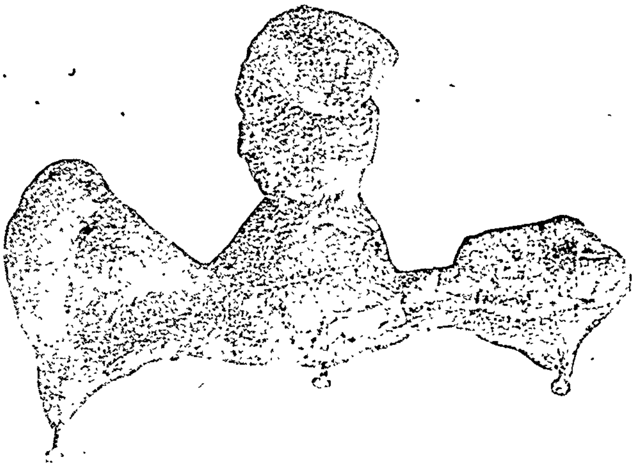
In no case of complete hysterectomy, either by vaginal or vagino-abdominal methods, have I ever had in any of the varieties of carcinoma a recurrence in the scar in the vaginal vaults.

CASE 1.—A. B., age 38 years, had two children, one miscarriage eight years ago. Family history negative as to cancer. Early menstrual history also was negative. Three months prior to her first examination she had prolonged and increased *quantity of menstrual flow. Thereafter she noticed* an occasional bloody discharge accompanied by a very bad odor. She consulted her family physician, Dr. Diemert, who recognizing the condition immediately referred her to me. On examination I found the cervix to be completely involved, the body enlarged, but the vaginal walls and vaults free from encroachment. A microscopic examination showed the condition to be an adenocarcinoma.

Her general condition was very bad. She was addicted to the daily use of large quantities of morphin. She had a weakened heart muscle, and a chronic parenchymatous nephritis. I advised early operation, and decided that her best chances for immediate results were by the more rapid method of vaginal hysterectomy. I operated Jan. 29, 1899, using the clamps.

Her convalescence was as rapid as could have been expected. She left the hospital in five weeks. In July, I was called to see her again. I found the scar in the vagina free, but the glands along both pelvic walls and generally throughout the belly were involved. She lived until September, 1899.

CASE 2.—L. A., aged 37, had seven children, two miscarriages. Early menstrual period was negative. I had operated on a maiden sister one year previous for a sarcomatous myoma; no other malignant disease in her family history could be ascertained. She had been flowing profusely for a number of months at each menstrual epoch. She had called Dr. Borts to stop the hemorrhage two months before she came into the hospital. At this time she refused any local interference. At the next period the doctor found her in collapse, hurriedly packed the vagina and applied the usual remedies for restoring her. The next day he insisted on making an examination, and found a complete disintegration of the cervix. I was called and advised removal to hospital. I first removed the disease by curette, afterward applying a cautery. In May, 1899, two weeks after, I performed a combined vaginal and abdominal hysterectomy, making a most careful dissection of the glands along the iliac vessels, and removing every particle of fatty *substance at the base of the broad ligaments.*



Nullipara, aged 30 years. Adenocarcinoma of cervix, double pyosalpinx. Vagino-abdominal Hysterectomy.

This patient died in four months with general involvement of the lymphatic system, though the pelvis was entirely free from any recurrence.

CASE 3.—E. H., married, aged 28, was nulliparous. She had never been robust. There were hereditary tendencies to tuberculosis from both paternal and maternal sides of the family. A brother has some malignant tumor of jaw. Her early menstrual period was negative. She was admitted to Charity Hospital on November 15. 1899. Four months
mittance she had first noticed a watery
with yellow. Since that time she had a
charge. She had been suffering from

the lower abdomen and both groins. Upon examination a diagnosis of double pyosalpinx was readily made, but the condition of the cervix aroused a suspicion of malignancy. A portion was removed and submitted to microscopic examination, and an adenocarcinoma was found.

On December, 1899, she submitted to an operation for complete extirpation. I could find no glands at the base of the broad ligaments, and those along the iliac vessels were not affected.

In January she returned for an examination, and I found a small gland at the base of the left ligament, and two in the right side, together about as large as an almond. They were tender on pressure. This tenderness has decreased with local applications of ichthyol, and while there has been no appreciable increase in the size of the glands during the past four weeks, I find no diminution.

It has been my experience that the most common form of cancer of the cervix, the adenocarcinoma, is by far the most to be dreaded.

1. Because of its natural growth in expanding laterally into the parametrium. (See Figure.)
2. Because the lymphatic vessels and glands in the parametrium are so small that they may easily be overlooked, yet may be infected.
3. Because of the indirect connection to the chain of glands over the iliac vessels.

The practical import of this paper can be summarized thus:

1. Early differentiation of malignant growths of the cervix.
2. Careful consideration of the importance of the lymphatic vessels and glands in their capacity of drains of the different portions of the uterus.
3. That abdominal section with complete removal of these special groups of lymphatics alone offers in suitable cases the chance against a recurrence of carcinoma, particularly when the cervix is affected.

OPERATIVE TREATMENT OF CANCER OF THE UTERUS.*

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A paper on this subject can not contain anything startlingly new until something additional regarding the nature of cancer has been discovered. Nothwithstanding that this is so, we have gained sufficient experience in its treatment to be able to make a just analysis of the various methods employed, and in this way review as it were our work in combating a disease which in America must destroy 30,000 women annually. We may also find some light in a careful study of the natural history of the disease when left unchecked, and in an analysis of the cases in which recurrence has taken place after operation. Although this paper is not to deal with the etiology of cancer, I can not refrain from calling attention to the burden of proof pointing to the theory that cancer of the uterus is caused by a parasite. And although we can not accept without further convincing evidence the statements of Max Schüller regarding its nature, yet whatever method of treatment we apply to cancer it must not violate the principles which should govern us if the disease were proved to be due to a germ. In view of the results obtained by experimental work, any method of treatment which proceeds in disregard of this work can not be classed as proper. It is eminently fitting to analyze several of the chief methods of treatment and in doing so I will first take up the operation of *vaginal hysterectomy*. This is as firmly established in the minds of the profession as the proper procedure as is any in surgery; but at the risk of meeting your disapprobation and that of many who read this paper I shall lay bare the facts.

Notwithstanding that Olshausen has succeeded in doing a hundred operations without a death due to the procedure, a success which I believe has been imitated by Leopold, we must ascribe to vaginal hysterectomy for cancer of the uterus, taking into consideration the statistics of all operators, an average mortality of 10 per cent. This mortality is trivial considering the gravity of the disease for which the operation is performed, and the difficulties inherent in the procedure. The operation is therefore to be considered in the light of its results rather than in its dangers; for the ingenuity of the surgeon has not devised a procedure more beautiful, requiring greater dexterity in its proper performance than this operation of vaginal hysterectomy for cancer: "the German operation," as Olshausen calls it. Operators will of course be loath to relinquish a piece of work which is so apparently surgical in its principles and stands on such a distinctly anatomical basis as this, for some new method of treatment.

Let us consider the results of vaginal hysterectomy for cancer. Statistics can be twisted both in their formation and in their interpretation so as to strengthen almost any argument, the point of view of the observer largely governing the result. But in the matter of cancer statistics a most commendable spirit has governed the profession, and each reporter seems to strive to tell the exact truth only. Personally, I do not believe that a woman who has suffered from carcinoma of the uterus and has been operated on should be considered out of danger of recurrence until six years have passed. Let us take the experience of Jessett. This surgeon found 58 per cent. of his vaginal hysterectomies for cancer of the cervix, free after one year, and 40 per cent. free after six years; of his operations for cancer of the body of the uterus, 83 per cent. after one year, and 60 per cent. after six years.

Mortality.—In estimating this I take at random three groups of operators in Germany, France, and England and America, a total of 1087 cases with 10 per cent. mortality. John Byrne found in 1273 cases a mortality of 14 per cent. The latest figures are by Picque and Mauclaire, up to 1889, 2376 cases with 9 per cent. mortality.

Leopold, Kaltenbach, Dimitri de Ott, Landau, Olshausen and Jacobs out of 438 cases had 16 deaths, or 3.65 per cent. Terrier, Doyen, Segond, Quenu, Richelot and Bouilly out of 286 cases had 47 deaths, or 16.4 per cent. Jessett, Lewers, Lanphear, Purcell and Russell out of 363 cases had 43 deaths, or 11.8 per cent.

As regards remote results of vaginal hysterectomy for cancer of the cervix, Jessett after 6 years had 40 per cent free; Jarvin after 4½ years, 37½ per cent.; Longuet after 3 years, 14 per cent. (6 operators). Lanphear after 3 years found 31 per cent. free; Russell after 3 years, 41.7 per cent.; Thorn after 6 years, 27.5 per cent.; Berry after 2 years, 12 per cent (5 operators). Jacobs found that 50 per cent. of his cases relapsed in the first year. The average after 3.9 years was 29.1 per cent.; average mortality was 11.5 per cent.

In vaginal hysterectomy for cancer of the body of the uterus, Kukenberg after 5 years found 66.7 per cent.

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free; Lewers after 2 years, 83.3 per cent.; Jessett after 6 years, 60 per cent. The difference between the results of vaginal hysterectomy when done for cervical cancer and when performed for corporeal cancer, is striking. The mortality of the two operations is about the same.

High Amputation of the Cervix.—Thomas More Madden reports 31 cases of amputation of the cervix with recurrence in 1 case in four years. Five recurred within a year, and 2 in two years, 1 in three years, 1 in four years, and in 10 cases or 30 per cent. there was no recurrence within four years. He has 5 cases free after two years, and 6 cases free after one year. The total shows 71 per cent. free after one year and 51.6 per cent. free after two years.

In analyzing the operation of high amputation for carcinoma of the cervix, Baker, of Boston, reports 62.5 per cent. of cases free after two years, and without the loss of a patient directly from the operation. A personal communication from Dr. Baker a few days ago stated that he was more convinced than ever of the efficacy of high amputation.

John Byrne traced 40 cases operated upon by his method and found an average exemption of nine years, this operation being performed in early cases. He traced 50 cases which were advanced when operated on and found 10 exempt over two years, 11 over three years, 6 over four years, 8 over five years, 6 over seven, 2 over eleven, 1 over thirteen and 1 over seventeen. After two years there were 90 per cent. free. Lewers found 33 per cent. of his cases well after two years.

As far as the *sacral method* of operating is concerned Westermark collected 104 cases with a mortality of 24 per cent. In view of what can be accomplished by the preliminary hemostasis through the abdomen and of the combined abdominoperineal method of extirpating the uterus and rectum through the vagina, I can not see what advantage the sacral method can have in advanced cases. Jacobs, in comparing abdominal hysterectomy in 15 favorable cases, finds no relapses from several weeks to twelve months, and contrasts this picture with the series of 81 cases of vaginal hysterectomy showing relapses in 41 cases within a year. The importance of removing the vagina together with the uterus as well as the value of heat in closing the mouths of the absorbents as the operation progresses is well shown by Mackenrodt, who contrasts 81 per cent. of the recoveries at the end of one year by his method with the old method, finding that by the latter at least one-third of the cases have relapsed within one year. His very able paper should be read by all interested in cancer.

Halsted found in cancer of the breast that after a more radical operation 52 per cent. of the cases lived more than three years; the operation as previously performed for cancer of the breast gave but 20 per cent. free cases after three years. I am again forced to differ from my friend, Dr. Kelly, as to the analogy between cancer of the breast and uterine cancer, and I insist that the same requisites to success must be observed in operating for cancer of the uterus as in other parts of the body.

Roger Williams, in a discussion on early operation and late, quotes Leopold's statistics that in the early cases—where it is necessary to confirm the diagnosis by the microscope—recurrences take place in 23.7 per cent. only; whereas in advanced cases recurrences take place in 66 per cent.

It is not necessary to multiply statistics further, for in reality a careful analysis of a proper report by one accurate observer will suffice. Some operators, like Bouilly, Polk and many others, believe that all cases of clinical cancer relapse after vaginal hysterectomy, and I do too. All operators agree that the widest possible dissection should be made, and the broadest removal of tissue. If vaginal hysterectomy for cancer carries with it a general mortality of 10 per cent., and if after five years no more than 20 per cent. of the cases are free from relapse, I can not see how the operation can be advocated against the claims of high amputation, which has practicaly no mortality inherent in it and which gives far better results. But the operators will not rest content with the results obtained by high amputation even though they are better than those seen to follow vaginal hysterectomy; for in a sort of fierce determination to combat this curse of our civilization they seek not only preventive measures, but an operation which will grant a greater immunity against return of this disease. If then we can show that the mortality inherent in a certain piece of work is no greater than that which follows vaginal hysterectomy, and if we can demonstrate that by means of this operation the broadest possible dissection and removal of tissue are possible, and that there is the least possible chance of soiling of the field of operation and dissemination of the cancer cells during its performance, we are in a position to command the attention of the profession for such an operation. Furthermore, we are bound to be guided by the analogy of operations performed for the same disease in other parts of the body if the same principles are involved. It will not do to apply laparotomy in only the advanced cases, as some suggest, reserving for vaginal hysterectomy the easy and early cases, and then contrast the statistics of the two operations. If an operation is indicated for the grave types of cancer it is still more forcibly indicated in the early cases, for the indication of operation in cancer is not so much the local state as it is the tendency to recurrence.

A consideration of these statistics forces us to the conclusion that vaginal hysterectomy for cancer of the body of the uterus gives far better results, both immediate and remote, than are seen to follow the same operation for cancer of the cervix. Some operators have attempted to modify these figures by dividing their cases into late cases and early cases. As the cancer comes to us, if we can make a diagnosis from clinical symptoms, the case is to be classed as a late case; whereas, if cancer is suspected and the diagnosis is confirmed by the microscope, the case is to be classed as an early case. The differences in the recurrences of the two classes of cases are stated by Roger Williams as 23.7 per cent. in the early cases, and 66 per cent. in the late cases; and, inasmuch, as of all cases of cancer of the uterus which come to us but 10 per cent. can be operated on by the vaginal route, we are forced to the conclusion that vaginal hysterectomy is not an admissible operation for cancer of the cervix except in a very small and selected percentage of cases, and the propriety of performing it in these cases may be disputed; for it is possible that other operative procedures less severe would give better results in the same class of cases. It may be interesting to determine why better figures are obtained when the operation of vaginal hysterectomy is performed for cancer of the body of the uterus. Two factors, I believe, conduce to this: first, in cases of cancer of the body of the uterus we can ither the infected area than in the operati cervix, and during the operation s soiling the field of operation by forcing them into the absorbents. We may with propriety compare the results obtained from two less severe operative procedures with those which follow vaginal hysterectomy.

Byrne's method of removing cancer of the cervix has unquestionably given better results than vaginal hysterectomy, and the same may be said of the method which Sims advocated and which is adopted by Herbert Snow, Lewers, More Madden, Knowsley Thornton, and Baker, of Boston. So then, vaginal hysterectomy for cancer of the cervix, after years of trial and though as perfect an operation as it has been made, must be discarded because it has not stood the test. It is not so with vaginal hysterectomy for cancer of the body of the uterus, for this grants an immunity almost as great as could be expected. I will not speak of palliative methods of treatment, methods of injecting alcohol, methylene blue, and other remedies, nor of inoculation experiments. Cancer, like other chronic diseases, has a list of these nostrums too long to cite.

In searching for an operation or method of treatment which will place surgeons in a better position before the profession at large and grant our patients greater immunity against recurrence, we should consider the methods by which cancer extends, and also the requirements of a successful operation.

Roger Williams found in autopsies on cases which had died with cancer, that the vagina was involved in 92 per cent. of the cases, and that the lymphatic glands were involved in 71 per cent. Hofmeir found the parametric tissue involved in 96 per cent., Peiser in 50 per cent.; Kiwisch the Fallopian tubes involved in 24 per cent. These investigations show, then, that unchecked cancer has a tendency to spread to the parametric tissue and the vagina and to the lymphatic glands, and in frequency in the order in which I give them. A significant fact is that metastatic growths outside of the pelvis are rarely found, and that the cancerous involvement has a tendency to be limited to the pelvis; and when recurrence takes place it is usually in the pelvis, and most commonly in the vagina or parametric tissue. The anatomic requirements of a successful operation for cancer of the uterus will necessitate the removal of a portion, at least, of the vagina, all the parametric tissues and all the lymphatic glands in order to prevent recurrence, and the surgical requirements are that this removal be made in such a way as to be practically bloodless and to prevent introduction of even microscopic portions of the cancerous tissue into the absorbents. These requirements are fairly well met when the vaginal operation is performed for cancer of the body of the uterus, but are violated in every essential when the operation is done for cancer of the cervix. Although some operators cleanse the field as thoroughly as possible before proceeding to the extirpation, and others use the actual cautery for the purpose of closing the mouths of the absorbents, these procedures are rendered ineffective owing to the mechanical bruising and pressure to which the cancer is subjected during the operation of removal through the vagina. Vaginal hysterectomy not only ignores all that has been done in the bacteriology of cancer, as soiling of the field of operation is inevitable, but it also mechanically and of necessity projects the cancer cells beyond the field of operation. If this is true of the German operation of vaginal hysterectomy for cancer—the operation which is performed in America—the criticism applies still more forcibly to the operation proposed and practiced by Duret in 1895, recently revived by Kelly, viz., by morcellating the cancerous uterus. And, whereas, I have been able in a few cases of vaginal hysterectomy to make so careful and minute a dissection of the tissues as to enable me to secure the uterine arteries outside the ureters, and in this way make a broader removal of tissue, I am convinced that I violated the two essentials to a successful removal of cancer of the cervix, in that I could not avoid soiling the field of operation by the cancer cells, nor could I avoid pressing the cancer cells into the absorbents.

Let us consider the question of the site of recurrence. Hofmeier found that the parametric tissues were first involved in 95 per cent. of recurrences observed by him, and this is corroborated by Winter. Personally, I believe that the parametric tissue is involved before we see a manifestation of the disease in the vaginal scar. Now, considering the paths by which the disease normally extends, the position in which it recurs and the requisites of a successful surgical operation, we must abandon vaginal hysterectomy for cancer of the cervix and must class it merely as a palliative operation, which carries with it a mortality and gives results not as good as high amputation. Whether we proceed on the theory that recurrence is due to the fact that some of the primary cancerous tissue in the cervix is left, or that cancerous foci away from the cervix in the vagina or in the parametric tissue are left behind, or again whether we accept Roger Williams' opinion that recurrence after two years' interval is not recurrence but a fresh outbreak of cancer in tissue subject to disease, and in a patient specially prone to it, we must decide that vaginal hysterectomy, beautiful operation as it is and challenging our admiration, is a failure when applied to cancer of the cervix.

I have shown that vaginal hysterectomy in no wise meets the requirements of a proper operation for cancer of the cervix, and that it does not grant a sufficient immunity against recurrence. An operation to be called successful must remove the lymphatic glands, must remove the parametric tissue, the ovaries, tubes, uterus and at least the upper third of the vagina. In its technique it must embrace an almost perfect sterilization of the wound and a closure of the absorbents. This is met by a preliminary burning of the cancer field and an absolute hemostasis before beginning removal of organs involved. High amputation as performed by Byrne, with the cautery, by knife and scissors, as done by Baker, Knowsley Thornton, More Madden and others, closes the absorbents and make a local removal only. This operation therefore meets some of the requirements of a successful operation, whereas, vaginal hysterectomy meets none, and as a consequence we find that the operation of high amputation gives better results than vaginal hysterectomy.

I am not satisfied that these results are sufficiently good, and have been for some years trying to improve them. Polk, Rumpf, Ries, Clark, Werder and Mackenrodt have attempted the same thing. The dissatisfaction with the vaginal operation is becoming very common, and before we adopt any operation we should be very careful to state the grounds on which it should proceed; these should be based upon the requisites I have given. It is not necessary for me to describe the operation of ligation of the internal iliac arteries nor the steps taken to remove cancerous tisue after this operation. The technique of the operation I have several times given, but its remote results I am not prepared to publish, inasmuch as not sufficient time has passed. Suffice it to say that I have ligated the internal iliac arteries nine times for advanced cancer, and that one case died, not from hemorrhage or from sepsis but from acute nephritis, the autopsy finding small red kidneys, which before operation did not reveal themselves. I maintain that by no operative procedure can a bloodless field be created except by a preliminary ligation of both ovarian and internal iliac arteries. When this step is preceded by the thorough cleansing and charring of the cancer field I believe we prevent not only the introduction of *cancer cells and germs into the absorbents but we* insure against local soiling by these. I know of no other way by which we can remove all the glands from the pelvic brim to the obturator foramina, the broad ligaments, the parametric tissue on each side of the uterus, beneath the ureters and to the sides of the rectum and vagina, together with the vagina. Objection may be made to this operation that it is unnecessarily severe and that it may require more skill in its performance than is possessed by the average operator. Regarding skill and acquaintance with the technique, these can be secured by repeated operations on the injected cadaver. The severity of the operation is indicated by the mortality accompanying it, and I have lost but one patient in nine operations, all for advanced cancer; in two of them I removed the rectum as well. Besides, I may remind you that we are dealing with cancer, and if an operation were presented to me for this disease which carried with it a mortality of 20 per cent. and yet granted an immunity after five years of 60 per cent., I would accept it in view of the utter failure of vaginal hysterectomy. In making this attack upon this established operation I feel that I am not alone, for Roger Williams in England is leading the same fight. On the continent, Jacobs, Bouilly, Rosario Vitanza, Rumpf, Veit, Freund, Reynier, Ricard, Ségond, all express the uselessness of vaginal hysterectomy and the necessity of adopting some other method of operating. In this country, Ries suggested the operation first performed by Rumpf and elaborated by Clark. Penrose elects the abdominal route, Russell the same. Werder, Irish, Polk, and perhaps many others whose work I do not know so well, are with me in this matter of the inutility of vaginal hysterectomy in cancer of the cervix and *for the necessity for a radical abdominal operation.* Lanphear, Howard Kelly, Janvrin, Coe, Goffe, Wylie, and I believe the great mass of operators in America, are still performing vaginal hysterectomy for cancer of the cervix.

Let us glance at the mortality incident to the abdominal operation. In *Revue de Mal.,* for March 20, 1900, it is stated that abdominal hysterectomy for cancer has a mortality of 23 per cent. This I deny is the result in America. Ries notes 3 deaths in 15 operations—ligation of uterine artery, removal of glands, etc., by laparotomy, the Rumpf-Ries-Clark operation—20 per cent. Irish notes 25 operations, 3 deaths—progressive ligation by laparotomy—12 per cent. Pryor gives 9 operations, 1 death—ligation of internal iliacs, removal of all glands and portion of vagina, by laparotomy—11 per cent. Penrose has 7 operations, and no death—progressive ligation by laparotomy. Jacobs reports 23 cases, 1 death—progressive ligation and glands removed by laparotomy—4 per cent. Russell has 5 cases, and no death—3 by Rumpf-Ries-Clark method, 2 by Werder's method. Polk reports internal iliacs tied 4 times, anterior branch of internal iliacs tied 10 times, 14 cases, 3 deaths, 21.4 per cent. Total is 98 cases, with a mortality of 11.2 per cent.

Most of the operations done by Rumpf, Polk, Ries, Clark, Pryor, Werder, Russell, and those who agree with us in our views, were of a more radical type than those of Irish, Penrose and Jacobs, and in women who would have been refused by most of those who operate through the vagina, and yet the general mortality is 11 per cent. only. None of us has yet had great experience, and when we get it and properly select our cases, the mortality will necessarily be much lower. The gratifying feature about this new abdominal operation is that it gives *no greater mortality than follows* vaginal hysterectomy.

The object of my paper is to show as forcibly as I can the uselessness of vaginal hysterectomy, and to present to the profession the urgent necessity of reviewing our work and adopting that operation which will enable us to make the broadest dissection, to remove the most tissue, to remove all tissue in which recurrence is liable to take place, in a bloodless field and in such a way as will insure local cleanliness and prevent introduction of the germs into the absorbents during the operation.

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DISCUSSION ON PAPERS OF DRS. HALL, DEAVER, HUMISTON AND PRYOR.

Dr. H. J. Boldt, New York City—I think this subject is one of the most important brought before the Section at this meeting. I should like to call attention to the location of the neoplasm as classified by Dr. McMurtry. He divides into cancer of the cervix and cancer of the body. As a whole, this is correct in one respect, but from a clinical standpoint it is not the case. We must determine which operation we are going to perform, a vaginal or an abdominal hysterectomy. Cancer of the supravaginal portion of the cervix is more difficult to recognize, and those cases go the longest time before they are referred to a gynecologist for diagnosis and treatment. That, therefore, is an important consideration.

The ordinary form of cancer of the vaginal portion, unless it be the so-called erosion cancer, it not difficult to recognize; I refer to epithelioma or cauliflower growths, and they usually come to the physician much earlier than the other cases.

As to prophylaxis, it must be borne in mind that there is no form of disease which leads to malignant degeneration so readily as long-continued inflammatory conditions of the mucosa. Therefore, cervical fissures accompanied by inflammation of the mucosa are very prone to produce cancer.

As to the papers of Drs. Hall and Deaver, I will ask them what is the outcome of their cases three years after the operation. The technique Dr. Hall has described is a most beautiful one, but how many cases remain free from the disease after a few years of time? We must always bear in mind that the age of the patient is a most important factor in connection with the location and the extent of the disease. In regard to the ligature and clamp, the former is the neater operation, and I should always advise and use it, if consistent in a respective case. But to say that one can take off as much of the broad ligament with ligatures as with clamps is, in my opinion, erroneous. There is no danger of secondary hemorrhage if proper clamps are used. Cases which are advanced with the broad ligaments infiltrated are not going to live very long. In my experience they usually die within a year or so. We should therefore limit ourselves to the early cases. As Dr. McMurtry said, the chief factor is an early diagnosis. It is not sufficient to go into the uterus with a small curette and scrape a little endrometrium away, but every part must be curetted. If a small piece as large as a pin-head of malignant structure is secured it is sufficient to base a diagnosis on and to do a radical operation.

In discussing the malignant diseases of the uterus, the chief question is: What are the ultimate results? As far as the abdominal operation is concerned, my experience is too limited. Dr. Pryor has truly said that our experience in toto is too limited. Time will show whether the abdominal operation is superior in its ultimate results; as yet we can not speak with positiveness on this point.

Dr. J. M. Baldy, Philadelphia—It is entirely the practical aspect of gynecology that appeals to me. As to the technique when a major operation is to be done, I can fully agree with Dr. Pryor and Dr. Deaver. I know of nothing so irrational as the vaginal operation. The question is: How many patients can we get well by an operation? How can we best give health or relief? The gentlemen who are doing major operations tell us that they have from 30 to 60 per cent. of cures at the end of a certain period. They probably had excluded a hundred cases on which they would not operate, picking a half-dozen for operation. It is not fair to consider the picked cases. The question is: What relief have these gentlemen been able to give in all the cases of cancer which have come into their hands. We can not accept off-hand what figures say, because we know they can not be relied on. These gentlemen, when they include all their cases, cure one or two out of 500; it is the best showing they can make. If we wish to consider cancer practically, what will give the patient the most relief in all cases—not a few picked ones? Is it to do the major operation and kill the majority of them, or do something which will give them just as much relief as a major operation and which is accompanied by no danger? Is there anything that will do this? I am sure that there is. By referring to the medical and surgical literature of the world as it stands today, the cures are few and far between by the major operations.

We must divide cancer into two kinds in spite of the estimation by Dr. Boldt: cervical and fundus cancer. I suppose I have seen three or four hundred cancers in my life, and I have done from 50 to 150 major operations, and I do not know today of a single living case with cancer of the cervix in which I was able to make a diagnosis without the microscope. There are some I know nothing of, but judging from the others, I, in all fairness, consider that they are dead.

The fundal cancer, on the other hand, are all well, with the exception of 4 or 5 who died at the time of operation. I can put my hands on at least 13 or 14 of these women to-day who are well and healthy. What can we do to give these patients relief? Curette, scissors, knife, amputation, call it anything you wish. When you get it all away, burn, and burn as far as you can, and as thoroughly as you can. Those cases live as long as major operations and have often absolute relief. Dozens of them gain 40 or 50 pounds inside of three or four months. They have red cheeks, look well and feel well, and they usually insist that I must have made a mistake in the diagnosis of cancer. Major operations can do no more as they stand to-day. Any practitioner can carry out the one treatment—only specialists can do the major operation with safety.

Dr. G. Betton Massey, Philadelphia—Much of the lack of success in the treatment of cancer by the knife is due to delay. Such results are not infrequently due to the family physician's want of faith in this remedy, as instanced in the advice given by a physician to a patient, subsequently under my care: "Do not touch a cancer until you have to." The limitations of surgical relief are, however, very great, and I wish to call your attention to a method of treatment of cancer of the cervix, the kind of cases that have been spoken of by the last essayist and by Dr. Baldy as being least amenable to the ordinary operation. This method is surgical in spite of the fact that I bring it forward, although it is not surgical in that sense of surgery as interpreted at the present time, and which is limited entirely to the knife. This is the method of electrical destruction by the production of electrolytic salts of mercury in situ, in such a manner as to destroy the cancer as thoroughly as the knife will. This is done in the time of an ordinary operation, in from fifteen minutes to an hour and a quarter. It requires a very powerful electric current, and that is its main limitation. You must have good batteries and good apparatus. In addition to destroying the apparent limits of a cancer, it goes further by the diffusion of the oxychlorid of mercury or of zinc. Besides destroying the growth itself as thoroughly as the knife can, it produces a zone of infiltration which may be called the zone of sterilization, extending from one-half to one inch in all directions beyond the limit of the cancer. That is the distinguishing and probably the most valuable feature of this method. The method is faultless, and can easily be carried out with the proper instruments. It is rapid and sure, and is inferior to the knife operation only in that union by first intention is impossible. The dead material comes away in the ordinary manner and the cavity left heals by granulation. I have used this method on four cases of inoperable cancer of the cervix, of which two are living, one six years after the operation and the other six months. The two cases that are not living were benefited temporarily by what I call mild applications. An application was made daily for several months, controlling hemorrhage and the odor. You must remember that this is a powerful antiseptic, the oxychlorid remaining within the tissues for some time. Both of the unsuccessful cases had been operated on previously with the knife, nothing other than palliation being produced. In one of the cured cases a cure was established by the mild method, but I used 100 milliamperes for a quarter of an hour daily for six weeks, and then at longer intervals for the balance of a year. This patient is now perfectly well.

Dr. J. Henry Carstens, Detroit—Gentlemen, let us be honest. Let every one of you bring to your mind all the cases of cancer of the breast, no matter when operated on, where the axillary glands and the glands beneath the clavicle were removed—the most perfect operation. How many of these cases can you think of who are living three years after the operation without a recurrence, and how many have died? My experience is that they all recurred, and with very few exceptions they nearly all died. If you can not remove all the glands in a cancer of the breast, how in the name of common sense can you remove all the glands in the abdomen—in soft tissues where we must work around the aorta and where the operation requires a great deal of time? You can not take out every gland, you are bound to leave some of the gland and some of the lymph channel, no matter how careful you are. I will predict that the men who advocate abdominal hysterectomy will have just as many recurrences in five years as the men who do vaginal hysterectomy. Vaginal hysterectomy with me has always given poor results and I have limited my circle of operation more and more as my experience has increased. Many cases which I formerly operated on I now leave alone, because I can give my patient longer life and better well-being by palliative measures. I do not wish to say that I do not believe in vaginal hysterectomy. I can show you cases from 5 to 8 years after operation without a single recurrence, but you must get them early.

As far as electrolysis is concerned, I do not know that we are to laugh at it, but if cancer is due to the blastomyces or any other germ, and if electricity will kill it, if Dr. Massey will show a method of killing the germs in situ we will be under everlasting gratitude to him.

We must make our diagnosis early, and we must make our prognosis in all cases, even early ones, very bad indeed, as even those recur. We must use the curette and the microscope more than we do at present in order to detect cancer in the very earliest stage.

Dr. Joseph Price, Philadelphia—We are speaking to a large gathering of general practitioners and a few gynecological specialists, and a good many general surgeons. The point made by Dr. Baldy in regard to the malignancy of uterine cancers is the experience of a good many specialists. Sarcomas occur in the spinster in the upper part of the fundus, and the results by extirpation are cures. In child-bearing women the cancer commonly occurs in the cervix, rarely in the fundus. Malignancy is malignancy the world over, and always recurs except where you make the error of extirpations for cervical erosion or a crop of Nabothian cysts. In the neglected and desperate cases the curette and cautery does just what Marion Sims said many years ago in Boston. He advocated the free use of the curette and cautery before Dr. Holmes' class. I am speaking about the hopeless cases, those contaminating the atmosphere of the home. The family appeal to us to do something, because the home is becoming offensive to the family. What Dr. Carstens has said is correct. The free use of the curette and cautery, charring or cooking the parts, prolongs lives as long as a hysterectomy. It makes no difference if we extirpate, as they all come late, and sometimes they return. If they recur the deaths are easier, less objectionable to themselves and to their friends, whereas, after extirpations and recurrence in the bladder and bowel the deaths are horrible. I remember a physician's wife, from whom I removed the uterus, who came back and asked me to remove her bladder, as the growth had invaded it.

Dr. Humiston, a good anatomist, finds three sets of glands; Dr. Deaver, another good anatomist, finds two. They must reconcile this between them. There are, unfortunately, very few people who have had an opportunity of serving an apprenticeship in gynecology as we have, but there is only one well-organized department in gynecology in this country. It exists in a large hospital which is giving special departments an opportunity; and all you get there is object-lessons. Very few hospitals have organized departments for the specialties. Just here I want to pay my respects to the general surgeon, who is also entering this department. It seems that everything pertaining to sexuality is interesting, and it is the only excuse I have been able to think of for the general surgeon giving up his work and adopting ours. You must remember that many of us were general surgeons and made a great sacrifice when we entered our specialty. My brother and I made great sacrifices, giving up surgical work and a good obstetrical and family practice, which it took years to build up, in order to devote our time to gynecology. I regret that the good surgeons in Philadelphia neglect their general work and are adopting ours. If I were a younger man I would go back to general surgery, remove wens, treat ingrowing toe-nails and present the specimens at our county society. A few years ago I put three good surgeons to the test. I sent John Deaver an aneurysm case and two other general surgeons three cases each. A few days afterward I asked my students what they saw in the various hospitals to which these cases had been sent. At one hospital the "surgeon removed a pair of ovaries"; at another, "Dr. So and So "removed a pair of ovaries"; at the third the "surgeon removed a pair of ovaries." That is all they could tell me and all they had seen. Then I considered where I could send my cases after that. If our specialty is to be a specialty, let us begin now to teach it and practice it as such. It is the duty of all of you at the cross-roads to save the woman dying from an extrauterine pregnancy or from an appendicitis or a septic endometritis, as you have *no time* to ship them to Philadelphia. If general surgeons accept your money for four years it is their duty to educate you *to treat* those people at the cross-roads and not to meddle with the specialties. The teacher has been neglecting his duty to his profession. You all know that the general surgeons practice gynecology in jack-knife or rule-of-thumb fashion, and know as little about gynecology as a Chinaman does about teaching Sunday school. At present many general surgeons are practicing gynecology and professing to teach the great subject of general surgery. He is making precisely the same mistake as the professor of obstetrics is guilty of—professing to teach one specialty while practicing another.

Dr. A. H. Goelet, New York City—There are three points which should be emphasized, first, early diagnosis, and we can not insist too strongly on the family physician being impressed with this fact. Something over a year ago a physician in a Connecticut town sent me a patient to be operated on for cancer of the uterus. I sent the patient back to *him* with a note saying that he could cure the case himself in six months, as it was senile endometritis. I saw him later and he told me that the patient had entirely recovered under the plan of treatment I had outlined and which he carried out.

The next point is early operation. If a positive diagnosis of cancer is made, a radical operation should be done at once to remove the diseased tissue, and remove it thoroughly. As a case in point, a patient came to me about three years ago and I insisted on immediate operation. She had a cancer involving the body of the uterus. She left me in order to consult other specialists and many general surgeons in New York. They all advised the same thing. A year later her daughter came to me and asked me to operate. Their excuse for not accepting my advice in the beginning was that the family physician told her she had better wait, as it was not bad enough for an operation. I refused to operate, as I deemed it too late. She died a few months later.

The third point is that if the cancer has attacked the body of the uterus we should insist upon operation by the abdominal route, so that we can see what we are doing and so we can do more thorough work. I wish to place myself on record as favoring the abdominal route in cases where the disease has advanced beyond the cervix.

Dr. John Byrne, Brooklyn—I hesitate very much, on the present occasion, to take up your time in attempting to discuss a subject of such vital importance as the treatment of uterine cancer. Indeed, had I anything novel or of practical value to offer the few minutes allowed me by your necessary rules would hardly suffice. Besides, what I might say would, for the most part, be but a repetition of what I have been saying and advocating for the last 25 or 30 years.

Throughout the published transactions of the American Gynecological Society may be found the records and statistics of my work. These have been and are to the profession public property, and within the reach of all, and yet, though conceded to be singularly attractive, both as regards novelty of procedure and results obtained, few, if any, have followed my example or attempted to conduct electrocautery operations in a rational, not to say thorough, manner.

As Dr. Baldy has aptly said, what most concerns us and the community at large is the question: How many lives can we save by any operative measures in cancer of the uterus? How many lives can we prolong in comparative peace and comfort by operative measures? These are pertinent and practical questions, and I think I can confidently refer to my records for their elucidation. Thoroughly convinced as I am of the utter inutility, to say the least, I deny the legitimacy of hysterectomy for cancer of the cervix in any case. There is no example of malignant disease of that organ, with the exception of carcinoma of the fundus, and that ab initio, for which hysterectomy is useful or justifiable. As for primary mortality following this operation, its advocates have been in the habit, from time to time, of indulging in the wildest and most unwarranted statements and predictions—for example, that 5 per cent. would be an excessive estimate, and that by increasing familiarity with the operation and more perfect technique, primary mortality would be reduced to 2 or 3 per cent. Now, what are the facts? In 1892, as the result of an exhaustive study and careful analysis of all available data, and exclusive of probably thousands of cases which their exploiters have modestly withheld from the impress of cold, unsympathetic, and inexorable type, the actual primary mortality was found to be no less than 14 per cent. Again, seven years later (1899), a similar investigation resulted in the discovery that, instead of a reduced mortality directly attributable to the operation, the figures had crept up to over 20 per cent. Coupling these startling facts with the well-known reticence of our gynecological statisticians regarding recurrences, and about which they would seem to think "the less said the better," the conclusion arrived at ten years ago is fully sustained and emphasized, viz., that " over 90 per cent. of all the victims of cancer of the cervix uteri thus far submitted to hysterectomy would have lived longer and suffered less if they had been let alone." In brief, gentlemen, there is but one safe and successful method of treating these cases, and that is by electrocautery. Careful, slow and thorough excision of the diseased part by the heated knife, and repeated applications of the dome-shaped electrode to the remaining cavity, until the parts are dry, crisp and black, will be found an absolutely safe, and in the early stages of the disease a permanently curative, procedure. Moreover, in more advanced cases a similar course will be followed by a longer respite from relapse than from any other known method of treatment. I hope the day is not far distant when hysterectomy for cancer of the cervix will not only be abandoned as useless, but universally condemned as a criminal operation, which I believe it to be.

Dr. Phillips—I have been listening to see whether anything would be said as relating to the converse side of this picture. It has been my fortune to see, within the last six months, several cases of complete hysterectomy that I believe showed no cancer of the uterus. I believe they were simply chronic erosions. It has been my misfortune, too, to see many cases of amputation of the cervix, which I am thoroughly convinced were never cancer. Some of these diagnoses were made by the general surgeon, some by the general practitioner and a few by the gynecologist. I believe that there are many cases of simple erosions of the cervix that are sacrificed, in which complete hysterectomies are performed, that never had a single symptom of cancer. That should be thoroughly emphasized and the general practitioner should be asked in every case, before advising an operation that a thorough examination with the microscope should be made before an operation is decided on.

Dr. Charles L. Bonifield, Cincinnati—Dr. Goelet spoke of the necessity of educating the general practitioner to make an early diagnosis of cancer. It is my opinion that the general practitioner has been educated along this line, but that we must continue the education in another direction. We must educate our patients to apply for relief earlier. I have often had patients sent to me the day after they first consulted their family physician, and on examination I found them too far advanced for operation. As Dr. Baldy said, the question is a practical one; the result we should aim to obtain is to prolong life and relieve suffering. Until our friends who advise the very radical operation of removing all the glands they can find in the pelvis can prove by their statistics that they succeed in doing this, the majority of us will continue to perform the milder operation and give relief from symptoms.

As to the question between abdominal and vaginal hysterectomy, I am a decided advocate of the abdominal method; in fact, I have never done a vaginal hysterectomy. My reasons are briefly these: When the abdomen is opened, we can at once see whether there is involvement of the peritoneum between the uterus and bladder or between the uterus and rectum; if there is, a hysterectomy will do no good and the patient may be spared the dangers and discomforts of the operation; again, we may find that what seemd to be a thickening of the peritoneum from advance of a malignant disease is an inflammatory condition of the appendages having nothing to do with the cancer, and not being a contraindication to hysterectomy; in the abdominal operation we can go wider of the disease, especially in the broad ligaments, and there is less danger of soiling the field of operation.

Dr. G. J. Engleman, Boston—I have never published my results in operative work or in cancer of the uterus; as from the very beginning they have been such as they are described here to-day and now generally acknowledged, unfavorable. I never cured a case, and I deemed myself at fault somewhere, since successful and permanent results were recorded on all sides. My first hysterectomy for cancer, done twelve years ago and then most disappointing to me, is a fair sample. I found the patient improved at first, much improved; then a recurrence, and in less than a year speedy death. I was greatly interested and very much gratified at the tone of the present discussion, because formerly statements were made on all sides of success and cure, and I was unwilling to give my decidedly different and unfavorable statistics. Now, all admit precisely such results. We owe an acknowledgement to Dr. John Bryne, of Brooklyn, for his faithful work. We have doubted him and have watched him. He has gained better results with his method of amputation with the thermocautery than we have from hysterectomy. We have appointed committees to observe his work and the report on it found no flaw. Our observations to-day establish the correctness of his results and his views. We are now getting down to bed-rock; we are at last reaching the position in this question of hysterectomy for cancer of the uterus, that which was taken 75 years ago. We advocate removal in the early stages, claiming only that it will give the patient comfort for a time and then a rapid passing away. This was clearly stated by Sauter in 1822 as the result of a detailed study presented to the Academy of Medicine of Vienna. He takes precisely the position we hold to-day, but, like so much in medicine that is in advance of its time, it was ignored and lost. Hysterectomy in 1822 was a step even beyond the ovariotomy of McDowell, too progressive for the surgery of that period. Now, however, it merits our attention, especially since results and possibilities are there described, as we have only this very last year learned to admit, that temporary relief only was afforded by hysterectomy. Let us do justice and honor to the man who for so many years recognized the truth and staunchly, single-handed, maintained it.

Dr. P. A. Harris, Paterson, N. J.—I simply wish to refer to one point which I believe to be the most important item for our consideration, and that is the early detection of cancer. We as a profession are to be blamed for the condition of affairs existing to-day. If there is one mistake which is common, it is for the general profession to wait for the appearance of blood. They wait for hemorrhages. If we wait for them to appear many cases will pass the stage when an operation can do them any good. The cases should be detected early. In this connection I want to call your attention to the pre-existing leucorrhea. When you have bleeding, you often have tissue necrosis, and when this is extensive, you have very general infiltration and the case has passed to the point where anything like a good result is not to be thought of. Leucorrhea in any person, especially one advanced in age, should receive immediate and careful attention. Its cause should be ascertained. We here have a symptom of very great importance, and always preceding spottings and hemorrhage.

Dr. John G. Clark, Philadelphia—Freund, of Breslau, now of Strassburg, put into effect certain theories concerning a new method of operating for cancer of the uterus which was so skilfully planned that it proved to be the basis of all successive methods of abdominal hysterectomy. Up to this time no definitely planned operation for the total removal of the uterus for cancer had been performed, at least along the lines pursued by Freund. In the twenty-two years since Freund performed his first operation many operations and many plans of treatment other than the surgical have been inaugurated. Freund has been a most impartial critic and has never discarded any plan of treatment which promised better results than his own operation. After a careful observation of the various plans of treatment, Freund, in a personal conversation with me some two years ago, said he had returned to the abdominal method as the most radical, so far devised, for the cure of cancer. His indications for operation are as follows: If the cancer is in the early stage, radical abdominal hysterectomy is performed with a view to a permanent cure; if later, he performs vaginal hysterectomy, only as a palliative measure.

Having worked out a plan for the more radical removal of cancer by the abdominal route, I naturally cling to this method in preference to any other, and I have naturally been delighted to hear such a skilful surgeon as Dr. Pryor take such a strong stand in favor of the abdominal rather than the vaginal route. The very fact that he is so skilful and has advocated so strongly the vaginal methods in many other pelvic pathologic conditions renders his opinion of more than ordinary value when he unequivocally declares in favor of some one of the abdominal methods. If we are to follow the well-established surgical rule for the widest possible excision of tissue adjacent to the cancerous focus, it seems to me that Dr. Pryor's position is the only feasible one.

Within the last two months I have had the pleasure of trying Werder's modification of the abdominal method, and so far I have been delighted with it. In carrying out this method, practically the same plan as suggested by Ries, Rumpf and myself, may be instituted in the abdominal part of the operation. This insures the most radical removal of the diseased tissue and glands within the pelvis. After the uterine arteries are ligated well out toward their origin beyond the ureters, and the broad ligament with its cellular tissue detached from the pelvic wall, the uterus by means of strong traction forceps is drawn down into the vagina, and after whipping the peritoneum together over the pelvic wound the remainder of the operation is conducted per vaginam.

In order to render this operation most effectual I am a strong advocate of the cautery, as advised by Skene, based on Byrne's admirable work. In the cautery we have undoubtedly a better instrument than the knife. The latter cuts through but does not destroy immediately adjacent tissues; the former does both. Microscopic examinations of specimens constantly show that the operation is just within the area of cancerous infiltration and that possibly a very infinitesimally additional removal of tissue might have effected a cure. The careful excision with the cautery may secure this end.

In conclusion, therefore, I feel that a combination of the radical operation as devised by Ries, Rumpf and myself, with the methods of Werder and the use of the cautery for excision rather than the knife, will most nearly effect a radical cure. Even with all this care, our mortality statistics from a continuance of the disease must be tragically high.

Dr. J. Wesley Bovee, Washington, D. C.—I simply wish to cast my opinion in favor of the abdominal route, and I agree with Dr. Clark as to the efficacy of the operation described by Dr. Werder. We all know that in cancer of the cervix the vaginal wall comes in contact with the cancerous tissue constantly. In the operation of Dr. Werder the separation of the uterus and appendages and a portion or all the vagina is all done from above. Then the abdominal wound is closed and from below a circular incision is made around the vagina, meeting the lower portion of the dissection from above by cutting through the vaginal wall and pulling the whole uterus out through the vulva. The whole vagina can be removed in that way. I have now done 14 operations of this kind without one primary loss. Thus far, one case has died from a recurrence. Judging from the description of the symptoms I think it was a cancer of the stomach. This operation extended a little further in the way that Ries and Rumpf have shown, requiring a thorough removal of the lymphatic glands and of all the ligaments of the uterus and the vagina. It is not necessary to introduce the ureteral bougie, as the ureters are easily found and isolated. Chalot, who has done more work than anyone else in this line, ligates the iliacs and transplants the ureter into the rectum or sigmoid, or onto the skin, and removes the bladder. When invaded from cancer of the uterus, it is too late for any radical procedure in the way of extirpation of the bladder or transplantation of the ureters.

Dr. Deaver, in his paper, speaks of these radical operations, comparing the work of the gynecologist and the general surgeon. He speaks of the inguinal lymphatics running to the inguinal glands. I would like Dr. Deaver to say whether or not he removes the inguinal glands in his broad operation.

I wish to say to Dr. Clark that Dr. Sauter has been given the honor of being the first to remove the cancerous uterus through the abdomen, in 1831, but not the first to remove the cancerous uterus.

Dr. Andrew J. Downes, Philadelphia—I had little intention to report what I am going to, because I was afraid I would be premature. During the last year I was working on an electrical forceps with a view to bringing out a more practical and more useful instrument and one that would give us the same results much more quickly than the angiotribe. I have had considerable difficulty with the instrument-makers, as it seems that we can not obtain an electrical instrument as good as we want it. I attempted to procure a forceps that will control hemorrhage in 30 seconds. I now have three forceps, each with one blade on which I can boil a drop of water in 15 seconds. The heat and pressure enable us to control the hemorrhage in 30 seconds. I have operated five times with this forceps during the past winter, although not with the last one I described. I have removed the appendix three times, done one hysterectomy and one ovariotomy. The tissues grasped by the blade are white and there is no hemorrhage. If there is any pus or infected material, as is sometimes found in an appendix, the use of the forceps is not going to endanger the condition, as the forceps are sterile. The point I wish to make is, that with the electro-hemostatic forceps we can control hemorrhages; in cases of cancer we can go close to the pelvic wall and leave a perfectly sterile body behind, which a ligature does not do; what it once compresses remains compressed; if heated sufficiently it will also sterilize the tract through which it passes.

Dr. L. S. McMurtry, Louisville, closing the discussion—I take it that the discussion has thoroughly demonstrated that treatment of cancer of the uterus, is, in the present state of our knowledge, unsatisfactory. It is apparent that in prognosis and treatment we should discriminate between cancer of the cervix and cancer of the corpus. Some of the operations that have been proposed are not applicable in this disease in a large proportion of cases, because these patients will not bear prolonged surgery. A woman who has been depleted by hemorrhage or sapremia, as most of them are who apply for relief, is not in a condition to undergo an operation which will require two hours' time. I take it that Dr. Pryor operates only in cases in the early stage before there is marked constitutional poisoning.

The point I wish to emphasize is that more stress should be laid on minor gynecology. Women, about the menopause, should be invariably examined and minor operations and treatment of inflammatory diseases should receive careful attention, especially as a prophylactic measure.

Dr. R. B. Hall, closing the discussion—I agree with the gentlemen who have said that we should always conserve human life, that we should do for our patients that which will give them the best chance to live. If they can not make a perfect recovery, do the least operation which promises relief. When I agreed to write on this subject it was not an unpleasant duty, as I have always advocated, for certain selected cases, the use of the ligature in preference to the clamp for the reasons stated in my paper. It gives an opportunity to close the peritoneum and thus prevent infection and the possibility of a subsequent intestinal obstruction, which the gentlemen using the clamp with large quantities of gauze packed in the pelvis must admit is not an imaginary danger. I admit that I frequently do the combined operation for cancer of the body of the uterus, particularly sarcoma. The uterus is too large to remove through the vagina, but in those cases in which you can get outside of the diseased area the vaginal route is to be preferred. It is not such a severe operation and the patients recover easier than those that are subjected to the abdominal operation. I believe that the curette and the cautery have a field in these operations, not as a cure, but to prolong life, and to mitigate suffering. I frequently employ them, but I can not agree to the statement made by one of the gentlemen that that is the operation to be advised as a hope of a permanent cure. As to a permanent cure, I do not suppose that my experience differs very much from that of any other gentleman. The large majority of these patients are dead within three years after operation, although occasionally one lives a little longer. I have cases now, cases of epithelioma who are alive after six years. In one case I at first refused to operate, but finally consented to curette and use the cautery. After cleaning up the field, I decided to do a vaginal hysterectomy. The patient is still alive after six years, but it is a rare case. Recurrence is the rule, and it makes me hesitate to perform the radical operation advocated by some of the essayists.

Dr. W. H. Humiston, closing the discussion—My practice for several years has led me to this conclusion: It is necessary in all chronic diseases of the uterus to carefully examine microscopically all tissue removed. If malignant disease of the cervix is found, abdominal hysterectomy gives the best results. If malignant disease of the fundus alone is found vaginal hysterectomy is the better operation.

Dr. William R. Pryor, closing the discussion—I wish to say a word about curettage and removal of portions of the cervix for purposes of diagnosis. The surgeon who purposes to do this should have a clear understanding with his patient that if he finds cancer present he shall have the privilege of performing a radical operation within two weeks; for the man who puts a knife into a cancer focus disseminates cancer cells, and, unless an incomplete operation is very soon followed by a radical removal, his patient is made worse by the interference. The glands which I seek to remove in cancer of the cervix are those which lie near the obturator foramina, and I do not think that any operation for cancer of the cervix should be considered complete which does not accomplish the removal of these glands, together with all of the parametric tissue.

Dr. Deaver, closing the discussion—Notwithstanding that I am a general surgeon, I am more of the opinion than ever that the operation I advocate should be done prior to the infection of the glands. The great point is to have a definite idea of what you are going to do and then go ahead and do it. I have never had any difficulty in dissecting out the glands along the iliac arteries, as they are easily exposed. The curette and cautery is the operation par excellence in advanced cases, beyond any question of doubt. I recall a lady who was operated on four times by this method and lived for five years. I am sure that if she had had a radical operation earlier it is possible the ultimate result would have been better. What prompted me to do this work, so far as the glandular dissection is concerned, is what prompts me to do the radical breast operation. Doing general surgery for twenty years, and doing much breast work, I naturally followed the extensive dissection carefully. I operated on a case twenty years ago and the woman still lives. Of course, many cases recur. Dr. Cartsens says, make a careful prognosis; I say, make a correct diagnosis, that is the principal thing. All those who know anything about the anatomy of the breast know that the mediastinal glands may become involved, if the disease is allowed to advance; therefore, early operation and removal of the glands in the armpit before involvement is necessary. That is my practice.

So far as the anatomy of the glands is concerned, I did not say that I dissected out the inguinal glands when removing the uterus. We all know that within the pelvis we have the iliac and lumbar glands, which go to the receptaculum chyli. Those glands are the ones we must remove. If we can recognize our signboards, our anatomical landmarks, if we know the anatomical relation of the pelvic structures, it is no trouble whatever to dissect out the glands.

In regard to the general surgeon doing gynecological operations, I quite agree that the majority of them should not do such work, but these operations are so easy, so simple in comparison to those of general surgery, that I can not help but be attracted by them. I would like to see some of the gynecologists remove a large cystic or vascular goiter; why, many of them would perish—I mean the gynecologists.

THE ETIOLOGY OF SCARLATINA.

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In the *Berliner Klinische Wochenschrift* of July 2 and 9 there appeared an article by Adolph Baginsky and Paul Sommerfeld, in which they announce the discovery of a micro-organism whose constant presence in the throat secretions and blood of scarlet-fever patients causes them to believe that it is probably the causative factor of this disease. It is this article that has inspired me to a further communication, as well as a desire to present to the medical profession the evidence that has so far accumulated favoring the view that the diplococcus scarlatinæ, the germ discovered by me. is the cause of scarlet fever. The only notice taken by Baginsky and Sommerfeld of my investigations into the cause of scarlet fever is the statement that I had found a diplococcus resembling a very large gonococcus, which organism was considered by me as being the cause of scarlet fever. As the source on which this statement was based, they mentioned an editorial on the subject which appeared in the London *Lancet* of November 18, 1899. This editorial dealt with a preliminary report made on the subject under consideration. I mention this fact, not because I feel in the least hurt by receiving such scant consideration at their hands, but for the reason that if they had taken the trouble to read some of the later contributions by myself and others on the diplococcus scarlatinæ they would not have failed to notice the similarity in many particulars of this germ with the one whose discovery they announce. I do not presume to state positively that these two germs are identical; in fact, this would be almost impossible without having seen their cultures, but I will take the liberty to compare certain parts of the description of their organism with those made of the diplococcus scarlatinæ. The reader may then judge for himself whether there is any similarity or not. In order not to be accused of any inaccuracies or twisting of terms, I shall give Baginsky and Sommerfeld's statements in German exactly as they appeared in their article. Before beginning this comparison, however, I will say a few words in regard to the term "streptococcus."

In recent medical literature, it is quite common to find an organism described as a streptococcus when a culture shows short chains of three or four cocci mixed with single cocci. I have even seen an organism described as a streptococcus where an examination showed perhaps one or two short chains in a microscopical field filled with single cocci. It appears to me that the term "streptococcus" should be reserved for an organism the cultures of which show the chain form predominating, the chains being well defined and not simply an accidental arrangement of three or four cocci of perhaps different size and shape. In ordinary life one would hardly call three pieces of iron, each of different size, when joined together a chain. This statement is made because we are about to deal with an organism that has been described as a streptococcus, but which does not seem to conform with the proper conception of the term "chain coccus."

Baginsky and Sommerfeld describe the morphology of their germ as follows: "In direkten aus Blut in den Organen entnommenen Trockenpræparat erkennt man zu 2-3 gelagerte runde Keime, also Diplokokken oder kuerzeste Ketten, hie und da auch wohl als Tetraden gelagert."

In an article published by me[1] I made the following statement in regard to the diplococcus scarlatinæ, under the heading "Morphology": "In young cultures grown from the blood of a scarlet-fever patient the germ is usually seen as a diplococcus, both segments of which are globular. Streptococcus forms are occasionally, though rarely, met with, as are also single cocci." "Tetrads are frequently seen, and probably denote the beginning division of the organism." It would be very peculiar if two observers who have each examined over three hundred cases of the same disease should find two entirely different germs whose morphology at the same time bore such close resemblance. So much for the primary blood examinations. As we continue our comparison, certain discrepancies apparently appear. I shall again quote from the article by Baginsky and Sommerfeld: "Die Morphologie des so dargestellten Mikroben ist folgende: von wechselnder Længe; in solchen von 3-4 Individuen, indess auch in langen geschlængelten Ketten bis zu 50 Gliedern und barueber, der Keim des Streptococcus ist meist kreisrund, zuweilen allerdings auch abgeplatten und zwar in der Richtung senkrecht zur Kette, so dass zwei mit den breiten Seiten aneinander liegen. Studiert man einzelne Glieder der Ketten genauer in gefærbten Præparaten so erkennt man vielfach Diplokokkenformen, indess nicht immer, andere erscheinen also kleinere oder groessere runde Koerner. Die Form war wie man erkennt æusserst wechselnd und wandelte sich je nach den Medien, in welchen die Cultur weiter poussirt wurde. In direktem Præparat als Diplokokken aufgetretene oder als kurze Kettchen erscheinende Formen wuchsen in alkalischer Peptonbouillon zu langen Ketten, die z. Th. bei der Umzuechtung auf Agar und bei der Thierpassage sich wieder in kurze Ketten von 3—6 Gliedern unwandeln lassen. Hierbei variirte auch die Groesse des einzelnen Keimes aus demselben ursprueglichen Stamm in mannigfachster Weise." In the article referred to[2] I made the following statement in regard to the morphology of the diplococcus scarlatinæ: "A diplococcus polymorphous in character, but resembling, as ordinarily seen in slides made from fresh cultures grown on *my medium* (earth agar), a very large gonococcus. This biscuit-shaped appearence is best seen in specimens that have been but lightly stained. Tetrads are frequently seen, and probably they denote the beginning division of the organism. In very old cultures grown under favorable conditions it shows as an enormous coccus have a slight cupped appearance, the dividing line between the two portions being very indistinct in the more deeply stained specimens. By the division of the large diplococcus a number of smaller organisms are formed, which group together and do not appear as diplococci during the very early stages of their growth." This description of the organism was made from cultures grown on earth agar, while that of Baginsky and Sommerfeld showing long chains was made from cultures grown in alkaline pepton bouillon (*vide ante*). It is of importance to remember this fact, as the morphology of the germ varies according to the medium in which it is grown. ("Die Form war wie man erkennt æusserst wechselnd und wandelte sich je nach den Medien in welchen die Cultur weiter poussiert wurde.") It is this great variability in form when grown on other media than earth agar which caused me to think—as I mentioned in the article in the *New York Record*—during my early experience that the growth upon plain agar, etc., was a contamination. Jaques[3], who studied cultures of the diplococcus scarlatinæ grown on the ordinary media, says in regard to its morphology: "This germ has a wide morphology. Sometimes one stage and then another will become accentuated, according to the environment and nutrition. Sometimes conditions are favorable to its growth in chains and the culture will show streptococcus form. In another case it will grow as a staphylococcus, and still in another as a diplococcus." This variability of form which characterizes my germ, as well as that which Baginsky and Sommerfeld claim as a new discovery, is further shown by the description by Gradwohl[4] of the diplococcus scarlatinæ, who states that it shows no permanence of morphologic character, as well as by the following statement made by me in an article[5] on the subject. "This germ varies greatly in size and shape, and although the form usually seen in primary cultures grown on the earth agar is the diplococcus resembling a very large gonococcus, still a primary culture may show it in one of its other forms.

In order to prove the identity of the organism it becomes necessary to make successive transplantations of the culture from one tube to another, allowing it to grow for a few days at the least before transferring to a fresh tube. The different forms can be best studied by beginning with a culture of the large diplococcus, by transferring a loop of this culture to another tube of earth agar and allowing it to grow for a few days, and then making an examination of the growth it will be found to consist largely of tetrads; by the still further division of the tetrads in the next subculture small diplococci are formed, and through the division of these single cocci, etc." Another point of semblance between these two findings is the variability in virulence which both germs seem to possess in common.

Baginsky and Sommerfeld state, "Bei allen Thieren war die Virulenz eine aeusserst variable," and again, "Die Virulenz der Kokken ist nicht nachhaltig und geht leicht verloren, verminderte sich zumeist schon erheblich nach wenigen Tagen." This is a fact to which I have repeatedly called attention when speaking of the diplococcus scarlatinæ. I will not attempt to draw any comparison from the biologic characters of the two germs, as the following statement by Baginsky and Sommerfeld excludes such a course: "In unseren eigenen Culturen waren wir vergeblich bemueht gewisse Eigenheiten des Wachsthums in den einzelnen Staemmen zu fiziren; immer wieder variirte ebensowohl der einzelne Keim der Ketten in Form und Groesse, wie auch die Virulenz und selbst das biologische Verhalten in den Naehrmedien, so dass wir die Differenzirung einzelner Formen schliesslich auszugeben gezwungen waren." In looking over the comparison made in the preceding pages I think the reader can not fail to be impressed with the fact that in all probability the germ found by Baginsky and Sommerfeld in their primary examinations was identical with the diplococcus scarlatinæ, as the description given of it by them and my description of the germ as seen in primary cultures have almost the same wording. Of course, a point of difference is that Sommerfeld and Baginsky, in the description of the growth of their germ on agar, etc., speak of it as a streptococcus, while this term can not be applied to the diplococcus scarlatinæ as ordinarily seen. However this may be, the germ found by Baginsky and Sommerfeld in their primary blood examinations was certainly not a streptococcus, but a diplococcus, as they themselves say, "Zu zwei bis drei gelagerte runde Keime also Diplokokken oder kuerzeste Ketten." If a germ which shows such an arrangement is a streptococcus, why, then, every known coccus is a streptococcus. In their further description they speak of chains containing fifty or more cocci being found in their bouillon cultures. Such lengthy chains my diplococcus scarlatinæ never forms, and from an experience based on the examination of hundreds of cases of scarlet fever I feel justified in stating that a long streptococcus, an organism to which the name streptococcus can be properly applied, can *not* be found in cultures made from the blood of an uncomplicated case of this disease. If it is present, it is a sign either that the case is not an uncomplicated one, or that the culture is contaminated. The impression made upon me by the reading of Baginsky and Sommerfeld's paper was, that they had in their culture the diplococcus scarlatinæ mixed in some instances with a long streptococcus, the presence of which was accidental. Streptococci are present in the pharyngeal mucus of a certain proportion of cases of scarlatina, but not by any means invariably, nor do they ever compose the bulk of the culture. So much for the present in regard to the discovery of Baginsky and Sommerfeld. Let us now consider the evidence in favor of the view that the diplococcus scarlatinæ is the cause of scarlet fever.

1. *Evidence showing that the diplococcus scarlatinæ is a germ not heretofore described.*—In March, 1899, at a meeting of the Chicago Medical Society, I presented a preliminary report, together with a demonstration of specimens of a germ whose constant presence in a series of about thirty typical cases of scarlet fever had led me to believe that it was probably the cause of this disease. This germ, when grown upon a medium especially devised by me, showed certain peculiarities in its morphology—very large gonococcus form—and growth whereby it could be distinguished from other germs. A very careful and exhaustive search in bacteriological literature made prior to this announcement had failed to show the description of any germ resembling the one described by me. Since this preliminary report was published I and others have further elaborated the matter without finding anything conflicting with it. It is true that the large gonococcus form is not a constant feature of this organism, nor did I ever claim this to be the case; but it is the usual form seen when grown on the earth agar and one which serves to distinguish it from other organisms. This form, if not present in the primary cultures, can always be obtained by successive transplantations on the earth agar[6]. A full description of the different forms of this organism appears in the June issue of *Medicine* and in the *New York Medical Record,* September 2, 1899. Numerous findings of diplococci and streptococci in scarlet fever had been recorded before I announced my discovery, and may give rise to the view that I presented nothing new. While it is possible that some of these discoverers really had the diplococcus scarlatinæ in their cultures, they at best only described one of its forms, and none prove the constant presence, or the relationship, of the germ to the disease. Neither did they reproduce the disease or show any way by which the germ could be distinguished from others. Thus Crajkowski[7] in 1895 announced that he found diplococci in the blood of sixteen cases of scarlet fever; this organism presented nothing characteristic, nor did Crajkowski follow up his examination as far as can be seen by searching the literature on the subject. That the diplococcus scarlatinæ is a *new* germ is further shown in an article by Gradwohl,[2] who gives a very good description of its biological characters.

2. *Evidence showing that the diplococcus scarlatinæ is constantly present in scarlet fever.*—The presence of this germ in cases of the disease has been well proved. Thus Gradwohl[8] found it in seven consecutive cases, Jaques[2] demonstrated its presence in every one of a large number of cases examined. The writer announced before the Chicago Pediatric Society in December, 1899,[10] that he had found it in three hundred successive cases of scarlet fever and scarlatinous sore throat. Page,[11] of Boston, announced that he had found a germ corresponding to the description of the diplococcus scarlatinæ in a number of cases. Besides these published findings, I have personal knowledge of its having been found in the blood, throat secretions and scales of scarlet-fever patients by a number of other competent observers whose results have not as yet been published. These results have been so uniform that I am absolutely certain of my ability to demonstrate the presence of the diplococcus scarlatinæ in the blood, throat secretions

and scales of every typical case of scarlatina given me for examination.

3. *Evidence showing that the diplococcus scarlatinæ is a pathogenic micro-organism.*—This germ is pathogenic for mice, swine and guinea-pigs. Mice are most susceptible, and a small quantity of a virulent culture injected subcutaneously will sometimes kill the animal in an hour's time. As a rule, death takes place within twelve hours of the time of inoculation. Swine, as a rule, show no reaction from the subcutaneous injection, unless a very large quantity of a virulent culture is used. Swine are known to be insusceptible to the influence of most pathogenic germs when injected subcutaneously. Even the bacillus of hog cholera produces but little effect when administered in this manner; therefore it is not surprising that the diplococcus scarlatinæ is not very pathogenic when injected subcutaneously. Intra-abdominal injections give rise to grave symptoms, and if a sufficient amount of a virulent culture is used it will cause the death of the animal. The usual method which I have used in order to produce typical symptoms of scarlet fever in swine has been to inject a culture grown on agar and mixed with sterilized water directly into the circulation. For this purpose either the ear veins or the femoral veins were used. The amount of culture used for these experiments varied according to its virulency, usually, however, one cubic centimeter was sufficient, and in some instances caused the death of the animal a few days subsequent to its injection. Guinea-pigs usually succumb to the intra-abdominal injection of 0.1 c.c. of a virulent culture. During the first few days after inoculation these animals usually showed but little signs of sickness; then they began to refuse food, gradually became more and more emaciated, and death occurred as a rule ten to fourteen days after the injection was made. Subcutaneous injections generally were without result. These observations have to a great extent been verified by the experiments of Gradwohl.[12] Rabbits and white rats appear to be but slightly, if at all, susceptible, while cats and dogs are immune. The diplococcus could, as a rule, be easily obtained from the organs of the susceptible animals after death, and from their blood during life. Cultures taken from the blood of the ventricles and from the spleen generally showed a pure growth.

4. *Evidence showing that scarlet fever can be reproduced in animals by the diplococcus scarlatinæ.*—The diplococcus scarlatinæ is the first germ that has ever been discovered through whose agency a disease has repeatedly been produced, which has been recognized by competent men as being apparently identical with scarlet fever as it appears in human beings, so far as the rash and scaling are concerned. The animals used to reproduce the disease were white swine. When such an animal receives an intravenous injection of a virulent culture of the diplococcus scarlatinæ it will usually sicken within a few hours, there will be a rise in temperature, the animal will become restive and refuse food; after three or four days, as a rule, a decided reddening of the skin will appear, which lasts from one to two days, to be followed within a week to two weeks by profuse scaling. Sometimes the eruption is more of a papular character and the reddening not well marked, but usually it can be easily demonstrated, especially if the color of the animal is compared with that of one in good health. The disease has been reproduced by the author in a considerable number of swine, the number being large enough to exclude the possibility that it was merely an accidental phenomenon. These results have been further verified by Gradwohl[13] and Jaques.[14]

5. *Evidence showing that the pathologic changes in the organs, caused by the diplococcus scarlatinæ resemble those of scarlet fever.*—As an example of the gross changes produced by the diplococcus scarlatinæ I will give a brief statement of the findings in a young pig which was inoculated in the pathological laboratory of Rush College, Feb. 17, 1900. About 1 c.c. of agar-culture was rubbed up with 5 c.c. of sterilized water and injected into the femoral vein. On February 24 the animal was found dead, and on post-mortem the following changes were found: "Spleen is enlarged and congested; Malpighian bodies stand out prominently. Kidneys show cortex pale in color, with a few small hemorrhages near surface; capsule comes off easily; pelvis of kidney is congested and drips blood on section; pyramids stand out plainly. Liver shows numerous whitish necrotic areas and is congested; blood drips on cutting. Lymphatic glands of neck are enlarged, varying in size from a Lima bean to that of a hickory nut. Slight amount of effusion appears between layers of pericardium. Walls of intestine are congested, and show numerous hemorrhagic spots. Other organs are apparently normal." The mice and guinea-pigs that were examined post-mortem also usually showed gross signs of nephritis. In regard to their other organs, nothing positive could be stated on a macroscopical examination. The organs of a considerable number of animals were preserved for microscopical examination, the results of which will be reported later. Gradwohl has confirmed the occurrence of nephritis in swine and guinea-pigs after inoculation with the diplococcus scarlatinæ.

6. *Evidence showing that the disease produced through the agency of the diplococcus scarlatinæ is of a contagious nature.*—There are a number of facts on record which go to prove that this germ produces a contagious disease. Thus, Jaques[15] stated that when a healthy pig was placed with two pigs that were scaling after having been inoculated with the diplococcus, it developed a rise in temperature lasting several days, followed by scaling, thus showing that it had evidently contracted the disease by contact. Gradwohl, in an article previously quoted, states, that if a healthy mouse be put in a cage in which another mouse that has been inoculated with the diplococcus scarlatinæ has been kept, the healthy mouse will sicken and die and will show the diplococcus scarlatinæ in its organs post-mortem. I have seen similar results occur a number of times while carrying on my own experiments, and I think that it must be admitted that the contagious nature of the disease produced is extremely suggestive and speaks strongly in favor of the claim that the diplococcus scarlatinæ is the causative factor of scarlet fever.

7. *Influence of blood of scarlet-fever patients on the activity of the germ.*—Under this heading I will quote a few experiments described in an article[16] by me, to-wit: "A loop of pure culture of the diplococcus was diluted with fifteen minims of distilled water. One half of this was poured over a plate of glucose-agar, to the other half were added ten drops of blood from a patient who had just recovered from an attack of scarlatina, and this mixture was poured over a similar plate. Both were put into an incubator, the temperature of which was kept at about 36 C. At the end of twenty-four hours the plates were removed. The plate made from the culture without the addition of the blood showed innumerable minute colonies of the diplococcus, while on that to which the blood had been added there

were only a very few colonies. Presumably these had grown, because from the tendency to clump, some of them had not been exposed to the action of the blood. This experiment was repeated five times with almost identical results. Each time there was a slight growth of the culture to which the blood had been added, but the growth was so much more profuse in the one without this addition, that the inhibitory action of the scarlet-fever blood on the growth of the germ could be plainly demonstrated. Blood from a child 5 months old, where the possibility of a prior infection with the germ could safely be excluded, produced no inhibitory action. The other experiment consisted in inoculating four ordinary gray mice, each of which received five minims of a solution of a virulent culture of the diplococcus scarlatinæ in distilled water. Two of the mice had previously received, by subcutaneous injection, five minims each of blood-serum taken from a patient recently recovered from scarlet fever. The two animals that had not received the blood inoculations died within eighteen hours, while of the two that had been injected with the blood, one lived about forty and the other seventy-two hours." These experiments have since been repeated a number of times with practically the same result. In making the first set of experiments quoted, it was also necessary to use a virulent culture, as one that has been grown a long time on artificial media is not so sensitive.

8. *Finding of the diplococcus scarlatinæ in throat secretions of patients with scarlatinous sore throat, a further proof of its specific character.*—In an article on the etiology of acute tonsillitis,[17] I made the following statement regarding the diplococcus scarlatinæ: "It is not only invariably present in the angina of scarlet fever, but during an epidemic of this disease it will frequently give rise to an acute tonsillitis without any eruption, although not infrequently these cases are followed by a nephritis and sometimes by desquamation. It may sound like a bold statement to make, nevertheless I am fully convinced that a person who has had an attack of acute tonsillitis due to the diplococcus scarlatinæ, is rendered immune against scarlet fever; or, in other words, that this form of angina is nothing more or less than scarlet fever without the presence of an eruption." And further, "the contagion from a case of scarlatinous sore throat is capable of giving rise to typical scarlet fever in another person who has been exposed to it." The occurrence of scarlatina sine eruptione is something that has for a number of years been accepted, more or less generally, but it could not be proved positively, as the causative germ of scarlet fever was not known. Admitting for the present that the diplococcus scarlatinæ is the cause of scarlet-fever, it will be found that during an epidemic of this disease cases of scarlatina sine eruptione are of far greater frequency than has generally been supposed to be the case. Your skeptic may cry out, that the finding of the diplococcus scarlatinæ in so many cases of apparently simple sore throat speaks strongly against its being a specific micro-organism. On the contrary, it is just this fact which goes a long way to prove its specific nature. If it was only present in typical cases of scarlet fever, how could we explain those cases in which one child in a family has scarlet fever, while several others at the same time develop only a tonsillitis, followed perhaps by nephritis and desquamation. The contagion must necessarily be the same, for frequently these cases of angina give rise to an attack of typical scarlatina in another member of the family. Furthermore, if these cases of angina were not scarlatina sine eruptione, how could we account for the fact that so many people escape scarlet fever. The finding of the diplococcus shows that they had in the majority of instances been rendered immune by an attack of angina caused by this germ, and that the eruption of scarlet fever is simply one manifestation of the activity of this micro-organism. The presence of an eruption is not absolutely necessary to make a diagnosis of scarlet fever, however inconsistent this may seem when the name of the malady is considered.

9. *Growth in milk without affecting this medium a fact in favor of its being the cause of scarlet fever.*—In speaking of the diplococcus scarlatinæ, an editorial in the *Interstate Medical Journal*, March 1, 1900, states: "It is interesting to note in the description of the biologic characteristics of this diplococcus scarlatinæ that the micro-organism grows in milk, but does not produce any visible change in it, such as coagulation or digestion, etc. This will serve to explain the dissemination of this disease, which has been from time to time traced to the infected milk. It is important from a public-health standpoint. And the fact that cows are known to be susceptible to scarlet fever, taken into consideration with the fact that the diplococcus scarlatinæ is probably excreted in the milk of these animals, will explain how this milk which spreads the disease is infected. Of course, it might also be infected by means of contamination with the hands of patients with scarlet fever, or from milkers or dairymen in whose families scarlet fever is present."

10. *Finding of the diplococcus scarlatinæ in cases of surgical scarlet fever demonstrates its diagnostic value.*—In the May number of the *Chicago Medical Recorder* for 1900, there appeared a report of a case of double cryptorchidism complicated by scarlet fever, by Dr. Edward Ochsner. The patient, eighteen hours after the operation for the relief of his trouble, suddenly developed a high temperature, together with vomiting. On the following morning the patient showed a scarlet rash all over his body. The only thing that had come in contact with the patient prior to the appearance of the rash were saturated solutions of boracic acid and alcohol dressings, no iodoform being used. The question naturally arose whether the rash was of a simple septic nature, or true scarlet fever. I made cultures from the blood, obtaining a pure growth of the diplococcus scarlatinæ. A similar finding was obtained from the patient's urine, which showed traces of albumin. Subsequently, the patient scaled. Since the publication of the above report I have again had an opportunity to examine blood and throat cultures taken from a patient developing a sudden rise in temperature and scarlet rash after a slight operation upon the heel. The result of the examination of these cultures also showed the case to be one of scarlet fever. I mention these cases, because in all probability a large number of cases of so-called septic rashes are nothing more or less than true scarlet fever.

In concluding, I wish to state that all the experiments quoted are open to investigation, and that I feel confident that unprejudiced and painstaking investigators will further confirm what has been said. Allowing that these statements are based upon facts, I think it must be admitted that the diplococcus of scarlatina fulfills all of Koch's laws, and is therefore entitled to some consideration at the hands of those engaged in a search for the solution of the etiology of scarlatina.

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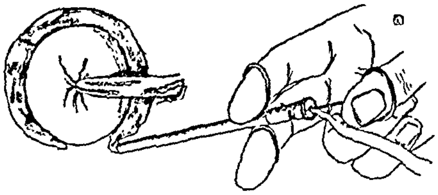
New Instrument.

Gauze Carrier.

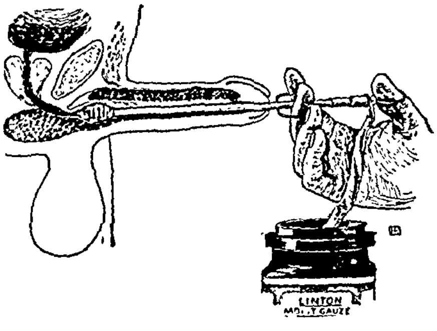
CLINTON T. COOKE, M.D.
HUTCHINSON, MINN.

The accompanying cuts illustrate an instrument designed to introduce gauze into cavities in, or orifices of, the body for drainage purposes or for controlling hemorrhage.

The instrument consists of a body tube twelve inches long (I am describing size 3), one-fifth of an inch outside diameter, having two ring handles attached to its upper end, for the index and middle finger, and having within it an inner retarding tube provided with a flange above and so cut out below as to form three spurs, which project slightly into the lumen of the lower end of the tube, permitting forward movement but preventing any backward movement of the gauze when the packer is moved back to obtain a fresh hold on the gauze. A cap screws on to the upper end of the body tube to hold the retarding tube in place, having an opening in its top equal in size to the lumen of the retarding tube.



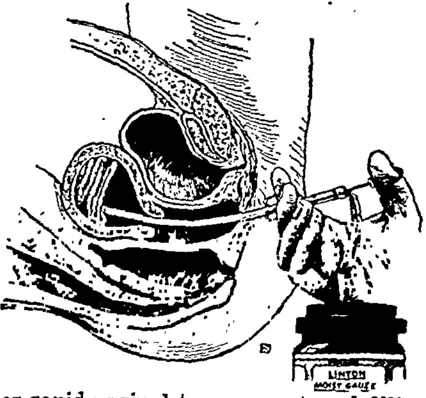
The packer is a steel rod having three outwardly directed spurs at its lower end, for engaging the meshes of the gauze and forcing it down toward the delivery end of the body tube, and at its upper end a ring handle for the thumb and a guard to prevent its entering too far and doing injury to the tissues at the lower end. The instruments are made in four sizes, Nos. 1, 2, 3 and 4.



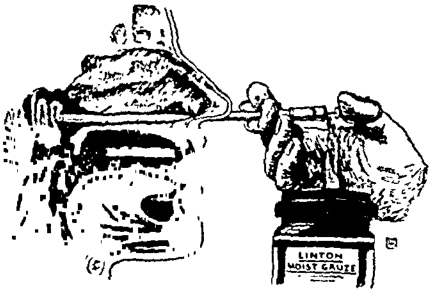
No. 1.—For nasal use in children or adults with deflections of septum or obstructive hypertrophy. It is six inches long, three-twentieths of an inch outside and takes one-half inch gauze.

No. 2.—For general nasal use. The vast majority of nasal tamponments may be made with this instrument. It is seven and one-half inches long, one-fifth of an inch outside, carries one and one-half inch gauze. It is the same diameter as No. 3 instrument.

No. 3.—For general and military surgery and gynecology. It is twelve inches long, one-fifth of an inch outside diameter and carries one and one-half inch gauze.



No. 4.—For rapid vaginal tamponment, and filling the uterus post-partum. It is eight and one-half inches long, two-fifths of an inch outside and carries a strip of gauze four to six inches wide.



THE FOLLOWING CLAIMS ARE MADE FOR THE GAUZE CARRIER.

It will rapidly, and in many cases painlessly, pack gauze into cavities, wounds, fistulæ or sinuses. The gauze, not coming in contact with the superficial portions or walls of the cavity until it reaches the desired point, is introduced aseptically. It can be properly sterilized. Being to some extent flexible it can be bent to the curvature of tortuous wounds. By its aid the uterine cavities can be more quickly, firmly, painlessly and aseptically packed with gauze than by any other method now in use. The nasal cavities and the nasopharynx can be quickly and firmly packed with gauze to check or prevent hemorrhage or to take up secretions. Punctured wounds or gunshot wounds can be promptly drained. Re-packing of any deep wounds is less painful than by any other method. Only one strip of gauze need be used for any cavity. Removal of the gauze is therefore easy. Moreover only one introduction of the instrument is necessary at one dressing. Re-infection is therefore less likely. The packing or tampon is introduced from the distal side toward the proximal side of the wound or cavity. The gauze is transferred directly from container to cavity and is not touched by human hands. For the nares or small cavities use gauze one-half inch wide; for general surgical purposes and the uterus one and one-half inches wide. For vagina tamponment use gauze four inches wide. The length of stroke of the packer should be about two or two and one-half inches. Short strokes will pack lightly, longer strokes firmly, to some extent independently of the width of strip of gauze used.

I have had these instruments made by Johnson & Johnson, of New Brunswick, N. J.

Pentosuria.—Bial describes two cases of pentosuria in the *Zeitschr. Klin Med.*, xxxix, 5 and 6, emphasizing the points that differentiate it from mellituria. Urine containing pentose reduces powerfully, does not ferment and has no polarizing properties, but it is chiefly distinguished by the positive results of the orcin and phenyl-hydrazin tests. Glycuronic acid gives the same reactions, but can be differentiated with brominphenylhydrazin, with which it forms a combination not readily soluble in water and strongly levorotatory, differing in this respect from pentose.

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Gilmore, J. N., Gaston.
Graham, W. A., Fayette.
Griggs, Alfred F., Birmingham.
Haney, J. T., Madison.
Harris, S., Union Springs.
Harrison, W. G., Talladega.
Heflin, Wyatt, Birmingham.
Hill, L. L., Montgomery.
Hirst, Jesse W., Thomas.
Hogan, S. M., Montgomery.
Howard, John W., Irondale.
Ketchum, Geo. A., Mobile.
Kirkpatrick, Sam, Selma.
LeBaron, Charles, Yellow Pine.
Ledbetter, Sam. L., Birmingham.
Lowry, S. H., Huntsville.
Moody, Hy A., Bailey Springs.
Moore, Riley J., Riverton.
Morris, E. W., Birmingham.
Nicholson, E. P., Valley Head.
Palmer, J. G., Opelika.
Palmer, C. R., Tuscumbia.
Pearson, James E., Sylacauga.
Pride, Wm. T., Madison.
Robertson, T. L., Birmingham.
Sanders, Wm. H., Mobile.
Searcy, James T., Tuscaloosa.
Shivers, O. I., Marion.
Talley, D. F., Birmingham.
Thigpen, Chas. A., Montgomery.
Trimm, James, North Port.
Walton, F., Blossburg.
Watkins, John M., Opelika.
Whitfield, Byron W., Demopolis.
Wilson, Cunningham, Birmingh'm
Wilkinson, D. L., Montevello.
Woodson, Louis G., Birmingham.

ALASKA.

McCann, D. B., Circle City,

ARIZONA.

Brockway, Geo. M., Florence.
Bell, S. D., Tucson.
Campbell, R. R., Phoenix.
Collins, Shields, Globe.
Cottrell, A. W., Phoenix.
Davis, Thos. Benton, Prescott.
Dryden, Robt. C., Winslow.
Duffield, Wm., Phoenix.
Fox, Butler G., Globe.
Johnson, H. R., St. Johns.
Jones, Chas. H., Tempe.
Looney, R. N., McCabe.
Malsch, A. F., Payson.
Phelps, R. M., Phoenix.
Sabin, T. H., Mesa City.
Sherer, E. A., Ft. Grant.
Stroud, H. E., Phoenix.
Walker, M. M., Tucson.
Ward, W. H., Phoenix.
Welch, Joseph P., Cottonwood.
Whitmore, Wm., Tucson.

ARKANSAS.

Bentley, Edwin, Little Rock.
Beakley, N. P., England.
Bittinger, Wm. M., Grady.
Blackburn, T. W., Boonsboro.
Brooksher, W. R., Fort Smith.
Brown, Geo., Conway.
Brunson, Randolph, Hot Springs.
Burns, J. L., Jonesboro.
Burns, Britt, Deckerville.
Cantrell, G. M. D., Little Rock.
Cargile, Chas. H., Bentonville.
Carrigan, S. M., Washington.
Chenault, Chas. B., Helena.
Christian, D., Springdale.
Collins, S. P., Hot Springs.
Cuep, C. W., Mammoth Springs.
Dale, John R., Arkadelphia.
Davis, Chas. E., Eureka Springs.
Dibrell, Jas. A., Jr., Little Rock.
Dibrell, Matt. S., Van Buren.
Dibrell, John R., Little Rock.
Dinwiddie, Robt. R., Fayetteville.
Drennen, C. Travis, Hot Springs.
Dunavant, H. C., Little Rock.
Ellis, Edward Q., Springdale.
Epler, E. G., Fort Smith.
Fink, Montague, Helena.
Floyd, R. G., Eureka Springs.
French, Frank L., Little Rock.
Gibson, L. P., Little Rock.
Graham, Josephus S., Tuckerman.
Hatchett, B., Fort Smith.
Hay, Eugene C., Hot Springs.
Hodges, Robt. H., Sulphur Rock.
Holland, Thos. E., Hot Springs.
Hooper, P. O., Little Rock.
Horner, A. A., Helena.
Hudson, G. W., Camden.
Hynes, Geo. F., Fort Smith.
Illing, Wm. P., Little Rock.
Jeeks, L. A., McCrory.
Jelks, Jas. T., Hot Springs.
Jordan, Arthur C., Pine Bluff.
Keller, J. M., Hot Springs.
Kirby, Leonidas, Harrison.
Lassagne, V. F., Eureka Spgs.
Lawrence, W. B., Batesville.
Lenow, Jas. H., Little Rock.
Linthicum, D. A., Helena.
Lindsey, R. W., Little Rock.
McCormick, E. G., Prairie Grove.
Meek, E., Argenta.
Mewborn, W. A., Howell.
Moulton, H., Fort Smith.
Nolder, S. M., Paragould.
Parchman, Wm. L., Van Buren.
Pry, Edwin T., Cornerstone.
Robinson, Wm. J., Portia.
Runyon, J. P., Little Rock.
Scales, J. Wm., Pine Bluff.
Shibley, J. S., Paris.
Short, Omar J., Hot Springs.
Slayden, Levi T., Tuckerman.
Smith, J. J., Chismville.
Southall, Jas. H., Little Rock.
Southard, Jefferson D., Ft. Smith.
Thompson, R. C., Pine Bluff.
Troupe, Amas W., Pine Bluff.
Watkins, Claibourne, Little Rock.
Welch, W. B., Fayetteville.
Yates, W. N., Fayetteville.

CALIFORNIA.

Adams, Chas. E., Santa Clara.
Ainsworth, F. K., Los Angeles.
Anderson, Winslow, San Fran.
Anderson, W. D., Vallejo.
Andrews, Harry A., San Fran.
Arnold, J. Dennis, San Fran.
Austin, Malcolm O., San Fran.
Baldwin, Wm. H., Sacramento.
Bard, Cephas L., Ventura.
Barbat, John Hy, San Francisco.
Barkan, Adolph, San Francisco.
Bazet, Louis, San Francisco.
Beadles, E. S., San Diego.
Beebe, C. E., Watsonville.
Bellamy, Benson C., Linden.
Bellows, G. E., Riverside.
Belknaps, L. J., San Jose.
Bergstein, H., San Francisco.
Bicknell, Fred K. T., Los Angeles.
Bixby, E. M., San Francisco.
Booth, Jas. P., Needles.
Boyes, Edwin J., Oakland.
Boyd, Walter M., Los Angeles.
Brainard, H. G., Los Angeles.
Brennan, T. F., San Francisco.
Briggs, Wallace A., Sacramento.
Briggs, Wm., Emery, Sacramento.
Bridge, Norman, Pasadena.
Bridgham, Samuel C., Pasadena.
Brinckerhoff, G. Erwin, Oakland.
Browning, Chas. C., Highland.
Brown, G. J., Point Arena.
Brown, Robt. W., Nipamo.
Brown, Philip K., San Francisco.
Bull, George C., Alameda.
Burton, H. G., Los Angeles.
Burnett, Theo. C., Santa Barbara.
Cameron, J. S., Red Bluff.
Carpenter, F. B., San Francisco.
Cartwright, C. O., Sacramento.
Casal, F. M., Santa Barbara.
Cave, Fred P., El Monte.
Chismore, Geo., San Francisco.
Chisley, Chas. P., San Francisco.
Chipman, M. M., San Diego.
Clark, Asa, Stockton.
Clark, Edward S., Napa.
Clark, B. F., San Francisco.
Cluness, W. R., San Francisco.
Cole Geo. L., Los Angeles.
Colburn, John R., Los Angeles.
Cooper, Chas. E., San Francisco.
Cooper, Chas. N., Campbell.
Couper, Edgar Ward, San Fran.
Cowles, J. E., Los Angeles.
Cowan, Chas. S., Fort Jones.
Cox, Emit J., Bodie.
Cox, Rosamond L., San Francisco.
Craig, W. H., North Ontario.
Crofton, Alfred C., Pasadena.
Crowley, D. D., Oakland.
Crumpton, H. John, Sausalito.
Cummings, Wm. M., San Diego.
Cushing, Clinton, San Francisco.
Cutter, Jas. Bird, Presidio.
Davis, S. B., Stockton.
Davis, Geo. W., San Francisco.
Davisson, J. H., Los Angeles.
Dawson, Wm. J. G., St. Helena.
Deacon, George, Pasadena.
Dryer, J. L., Santa Ana.
Dougherty, Patrick, Los Angeles.
Drysdale, G. N., Yreka.
Dunbar, L. L., San Francisco.
Eaton, F. B., San Francisco.
Ellis, H. B., Los Angeles.
Eschleman, I. S., Fresno.
Farrell, P. J. H., San Francisco.
Field, Edna R., San Francisco.
Fife, John, Red Bluff.
Fletcher, Mary B., Alameda.
Flint, Thos., San Juan.
Fallonsbee, E. A., Los Angeles.
Forwood, W. H., San Francisco.
Fowler, Wm. S., Ventura.
Frisbie, E. G., San Francisco.
Frink, Geo. K., Belvedere.
Frost, James, San Francisco.
Fuson, A. U., San Francisco.
Gaff, John V., Los Angeles.
Gallwey, John, San Francisco.
Gallimore, Elizabeth, San Jose.
Gardner, Mathew, San Francisco.
Gassaway, J. M., San Francisco.
Gaynor, John J., Eureka.
Gedge, Donald M., San Francisco.
Gibbons, Henry, San Francisco.
Gill, C. J., Riverside.
Goff, H. Neville, San Diego.
Gordon, W. A., San Jose.
Gordon, H. S., Westminster.
Gregory, Calvin L., Yreka.
Griffin, C. F., San Francisco.
Gundrum, E., Riverside.
Hall, I. Underwood, Jr., San Jose.
Hamilton, Newell Hiram, Santa Monica.
Hanson, G. F., San Francisco.
Hart, A. C., San Francisco.
Hart, Henry H., San Francisco.
Hare, G. A., Fresno.
Harris, S. M., Grass Valley.
Harvey, D. Morris, San Francisco.
Hazelett, J. W., San Bernardino.
Hearne, J. C., San Diego.
Heaton, Conley, Pomona.
Herrick, S. S., San Francisco.
Herrick, Albert B., Santa Rosa.
Hirschfelder, J. O., San Francisco.
Hoffman, Charles Von, San Fran.
Hopkins, Wm. E., San Francisco.
Howard, Kate I., San Francisco.
Hull, Geo. S., Pasadena.
Hulen, Vaid H., San Francisco.
Hund, O. H., San Francisco.
Hund, F. J., San Francisco.
Hunter, G. T., San Francisco.
Huntington, Thos. W., San Fran.
Huntington, W. D., Oakland.
Hurley, J. M., San Bernardino.
Jackson, Craven, Los Angeles.
Johnson, J. H., Los Angeles.
Johnson, Levi D., Whittier.
Johnson, Milbank, Los Angeles.
Jones, H. Isaac, San Francisco.
Jones, Philip M., San Francisco.
Joralemon, J. C., Los Angeles.
Kahn, Adolph J., Napa.
Keck, Fred'k, San Francisco.
Kelly, E. E., San Francisco.
Kendall, O. J., Riverside.
Kengla, Louis A., San Francisco.
Kenyon, C. G., San Francisco.
Kerr, William W., San Francisco.
Kime, Jas. H., Alton.
King, C. Lee, Pasadena.
Knorp, F. F., San Francisco.
Knox, Samuel B. P., Santa Barbara.
Kreutzmann, Henry J., San Fran.
Krone, Carl R., Oakland.
Kroteszyner, M. D., San Fran.
Kugeler, H., San Francisco.
Kuhlman, C. G., San Francisco..
Kurtz, Jos., Los Angeles.
Kuser, H., Novato.
Kyle, Geo. G., Riverside.
Lane, L. C., San Francisco.
Laine, Jos. R., San Francisco.
Lasher, Geo. W., Los Angeles.
Lawhead, H. D., Woodland.
Legler, Henry T., Oakland.
Lengfield, A. L., San Francisco.
Lewis, W. M., Los Angeles.
Levison, C. G., San Francisco.
Lewitt, Wm. B., San Francisco.
Lillencrantz, August, Oakland.
Lindley, Walter, Los Angeles.
Love, John H., Ventura.
McBride, J. H., Pasadena.
McCone, Jas. F., San Francisco.
McDonald, J. T., San Francisco.
McKee, Albert B., San Francisco.
McKee, J. A., Sacramento.
McLean, R. A., San Francisco.
MacGowan, G., Los Angeles.
MacMonagle, Beverly, San Fran.
McNutt, W. F., San Francisco.
Maher, Ira, Oakland.
Malaby, Z. Taylor, San Francisco.
Martin, Wm. A., San Francisco.
Martindale, J. H., Los Angeles.
Mattison, F. C. E., Pasadena.
Mauzy, W. P., Oakland.
Maxson, W. H., Oakland.
Mayer, Oscar J., San Francisco.
Maynard, H. H., Los Angeles.
Mays, Arthur H., Sausalito.
Metcalfe, James A., Azusa.
Miller, Robt. W., Los Angeles.
Morton, J. H., Courtland.
Morton, R. E. L., Dinuba.
Nadeau, H., Los Angeles.
Nelson, Chas. D., Pomona.
Nutting, C. W., Siskiyou.
Oliver, Jos. A., San Francisco.
Oneill, Melville E., San Fran.
Orme, H. S., Los Angeles.
Osborne, Daniel S., St. Helena.
Osborne, Curtiss H., Pasadena.
Parker, P. J., San Diego.
Parkinson, J. H., Sacramento.
Pauling, O. P., Blue Lake.

Payne, F. H., Berkeley.
Phelan, G. J., San Francisco.
Pischl, Kaspar, San Francisco.
Pomeroy, H. M., Los Angeles.
Powell, David, Marysville.
Powers, Geo. H., San Francisco.
Prather, D. J., Oakland.
Pritchard, Maurice, Sierraville.
Rattan, Frank, Antioch.
Reed, R. C. S., Los Angeles.
Regensburger, A. E., San Fran.
Reynolds, G. P., Alameda.
Rhea, A. R., Daggett.
Richter, Louise M., Garvanza.
Rigdon, R. L., San Francisco.
Rogers, S. J. S., Marysville.
Rohr, S. M., Santa Rosa.
Ross, Thos. D., Santa Rosa.
Rosenstein, J., San Francisco.
Rosson, John B., Tulare.
Rucker, Hiram N., Oakland.
Sanborn, C. A., Redlands.
Sanderson, A. J., St. Helena.
Schwalbe, Carl, Los Angeles.
Session, O. V., Hueneme.
Sheppard, Christopher, Ontario.
Sill, E. R., Oakland.
Sherman, Henry M., San Fran.
Simmons, G. C., Sacramento.
Simmons, G. L., Sacramento.
Smart, W. N., San Diego.
Smith, E. H., Santa Clara.
Sobey, A. L., San Francisco.
Somers, Geo. B., San Francisco.
Spencer, John C., San Francisco.
Stansbury, Oscar, Chico.
Steddom, Francis W., Los Angeles.
Stehman, Hy B., Los Angeles.
Stewart, J. T., Los Angeles.
Stimson, James, Watsonville.
Stinson, J. C., San Francisco.
Stone, C. E., Marysville.
Strader, Harvey W., Sacramento.
Stuart, A. McG., Santa Rosa.
Sutherland, F. B., San Francisco.
Swan, Benj. R., San Francisco.
Tait, F. D., San Francisco.
Taylor, A. Miles, San Francisco.
Tebbets, J. H., Hollister.
Thayer, J. W., Gilroy.
Thomas, E. W., San Francisco.
Thomas, F. W., Claremont.
Thorpe, A. C., San Gabriel.
Trueworthy, J. W., Los Angeles.
Tuggle, S. P., San Francisco.
Valla, A. Z., Los Angeles.
Vowinkel, F. W., San Francisco.
Wade, Wm. N., Santa Barbara.
Wadsworth, Chas. C., San Fran.
Wagner, Hy Lewis, San Fran.
Wanzer, Lucy M. F., San Fran.
Welges, L., Woodland.
Wells, Geo. F., Occidental.
Weir, F. A., Pasadena.
Werner, Marie B., Los Angeles.
Westlake, G. W., Red Bluff.
White, G. A., Sacramento.
Whitman, C. H., Los Angeles.
Whitwell, Wm. S., San Mateo.
Wiard, W. F., Sacramento.
Wills, W. Le Moyne, Los Angeles.
Wilson, F. E., Westminster.
Winton, H. N., Haywards.
Winslow, C. E., Bartlett Springs.
Wood, J. W., Long Beach.
Wood, Thos. D., Stanford University.
Woodward, Albert P., San Fran.
Woolsey, E. H., Oakland.
Wright, H. J. B., San Jose.
Wythe, Jos. H., Oakland.
Zwalenburg, C. Van, Riverside.

COLORADO.

Allen, J. Q., Telluridge.
Anderson, B. P., Colorado Spgs.
Andrew, Chas. F., Longmont.
Arnold, W. W., Colorado Spgs.
Ashbaugh, Abraham, Central City.
Ashley, W. W. Ouray.
Axtell, Edwin B., Denver.
Bagot, Wm. S., Denver.
Bailey, Jennie, Florence.
Baker, Jas. A., Florence.
Ballin, Max, Leadville.
Bane Wm. C., Denver.
Baird, Wm. Jas., Boulder.
Barbour, L. P., Boulder.
Bartholomew, H. B., Denver.
Bates, Mary E., Denver.
Beatty, John T., Denver.
Beggs, Wm. W., Denver.
Bell, Samuel H., Meeker.
Bellrose, Norman W., Eaton.
Beshoar, M., Trinidad.
Berry, A. J., Colorado Springs.
Black, G. M., Denver.
Black, J. A., Pueblo.
Blaine J. M., Denver.
Boice, John, Denver.
Bonnet, W. M., Denver.
Bonney, Sherman G., Denver.
Bourquin, A., Denver.
Branson, Walter W., Golden.
Boyd, E. T., Leadville.
Brown, Sherman T., Denver.
Buchtell, W. H., Denver.
Bucknum, Amasa M., Denver.
Bulette, C. E., Denver.
Bulette, W. W., Pueblo.
Bull, H. R., Grand Junction.
Burns, T. Michell, Denver.
Burns, Horace R., Louisville.
Call, Chas. H., Greeley.
Campbell, W. A., Colorado Spgs.
Carlin, P. V., Denver.
Carver, Wm. B., Denver.
Carrier, F. N., Canon City.
Case, Austin G., Denver.
Chase, John, Denver.
Chapman, Walter S., Rouse.
Chenoweth, M. S., Denver.
Chipman, J. C., Sterling.
Clark, J. K., Denver.
Clark, L. G., Glenwood Spgs.
Cline, J. W., Georgetown.
Clough, Augustus A., Denver.
Cochems, Frank N., Salida.
Coleman, J. F., Montrose.
Coman, L. Z., Boulder.
Conroy, Clare R., Denver.
Condon, J. F., Breckenridge.
Coover, David H., Denver.
Cornell, Howard M., Edith.
Corwin, R. W., Pueblo.
Creighton, Basil B., Manitou.
Crews, G. B., Denver.
Cunningham, Benj. F., Cripple Creek.
Cundy, Wm. A., Denver.
Davis, Wm. H., Denver.
Dawson, Howard H., Rico.
Dayton, David F., Trinidad.
Dean, Marshall H., Glenwood Springs.
Denison, Chas., Denver.
Denney, Robt. H., Elbert.
Dodge, H. O., Boulder.
Dorland, W. L., Pueblo.
Dow, W., La Junta.
Duggins, G. G., Pueblo.
Dulin, Frank, Denver.
Durbin, Levi T., Denver.
Eckerson, Edward, Denver.
Edson, Carroll E., Denver.
Eldridge, E. F., Grand Junction.
Elliott, John F., Denver.
Elsner, John, Denver.
Eskridge, J. T., Denver.
Espey, John R., Trinidad.
Exline, Jas. W., Denver.
Ferguson, C. J., Denver.
Fierstone, J. Lea, Denver.
Finney, Frank, La Junta.
Fish, E. Hamilton, Ouray.
Fisk, S. A., Denver.
Fleming, Carey K., Denver.
Ford, C. W., Denver.
Forhan, Thos. J., Trinidad.
Foster, John M., Denver.
Freeman, Leonard, Denver.
Freeman, Russell B., Denver.
Friend, M. Milton, Lamar.
Funk, Z. D., Cripple Creek.
Gallaher, T. J., Denver.
Gardiner, C. F., Colorado Spgs.
Gerber, Max, Denver.
Gaston, James B., Cripple Creek.
Gibbs, M. D., Touraine.
Giffin, L. M., Boulder.
Gilden, Patrick F., Colorado Spgs.
Graham, John W., Denver.
Graham, R. F., Greeley.
Graham, C. A., Denver.
Graham, John C., Denver.
Grant, W. W., Denver.
Grass, John, Trinidad.
Greedy, Frank A., Denver.
Grieger, Hubert, Denver.
Griffith, Benj. F., Leadville.
Grover, Barton B., Colorado Spgs
Guthrie, Alice B., Denver.
Guthrie, Ewing C., Aspen.
Hall, J. N., Denver.
Halley, Hallack T., Arvada.
Halley, John J., Fort Collins.
Hamly, Leonora B., Denver.
Hamilton, Geo., La Jara.
Harvey, Horace G., Denver.
Harrison, Millard, Boulder.
Haskins, Benj. F., La Junta.
Hassenplug, F. A. E., Cripple Creek.
Hassenplug, G. H., Denver.
Hawes, Jesse, Greeley.
Hawkins, T. H., Denver.
Heinberger, D., Denver.
Hershey, Edgar P., Denver.
Hickman, W. A., Colorado Spgs.
Hill, Edward C., Denver.
Hilleary, Jesse G., Estes Park.
Hodson, Fred A., Florence.
Hoffman, D. S., Lake City.
Holden, G. W., Denver.
Holmes, A. Marshfield, Denver.
Hopkins, S. D., Denver.
Horn, Thos. G., Colorado Springs.
Horn, Andrew J., Denver.
Hosford, Sara D., Denver.
Hotopp, M. Theo., Glenwood Spgs.
Howland, Henry H., Denver.
Hughes, Tandy Allen, Denver.
Hutchins, Robt. K., Col. Springs.
Jackson, Edward, Denver.
Jaeger, Chas., Denver.
Jarecki, Seymour T., Denver.
Jayne, Walter A., Denver.
Jeannotte, J. J., Leadville.
Jefferson, B. L., Steamboat Spgs.
Johnson, J. Everett, Leadville.
Kapp, Julia S., Denver.
Kearby, Chas. W., Rocky Ford.
Keen, Emma J., Denver.
Kearns, Jas. F., La Junta.
Keith, John G., Leadville.
Kelly, John P., Golden.
Kenney, Frank W., Denver.
Kickland, W. Alfred, Ft. Collins.
Kilgore, A. W., Ft. Collins.
Kinney, J. E., Denver.
Kirby, Harry W., Cripple Creek.
Kleiner, Moses, Denver.
Lake, Edward F., Denver.
Lamont, Walter A., Denver.
Law, G., Greeley.
Law, John, Leadville.
Lawney, Eleanor, Denver.
Leavitt, Byron C., Denver.
Lee, E. A., Ft. Collins.
Lemen, L. E., Denver.
Levy, Robt., Denver.
Liebhardt, Laura L., Denver.
Liggett, Wilbur T., Cripple Creek.
Little, Wilbur T., Canon City.
Lobingier, A. Stewart, Denver.
Lockard, W. G., New Castle.
Love, Minnie C. T., Denver.
Lyman, C. B., Denver.
Macalaster, R. K., Glenwood Spgs.
Mackenzie, Geo., Victor.
Macomber, G. N., Denver.
McClanahan, Z. H., Colo. Spgs.
McDermith, S. T., Denver.
McDonald, Allan J., Leadville.
McDowell, Uhler D., Longmont.
McFadden, John G., Loveland.
McGuire, C. M., Walsenburg.
McHugh, P. J., Ft. Collins.
McIntosh, Norman, Gunnison.
McLauthlin, Herbert W., Denver.
McMullen, Smith, Castle Rock.
McNellan, Milton, Basalt.
McNaught, Francis H., Denver.
Mann, Alfred, Denver.
Martin, Herman H., Denver.
Marlbourg, E. M., Pueblo.
Marks, A. D., Fort Lupton.
Medill, Walter W., Denver.
Melvin, J. Tracy, Saguache.
Miel, G. W., Denver.
Miller, Samuel W., Denver.
Miller, J. K., Greeley.
Miller, John S., Louisville.
Mitchell, Wm. C., Denver.
Moore, Alice T., Denver.
Mugrage, S. G., Denver.
Munn, Wm. P., Denver.
Neuman, D., Denver.
Neuman, Stephen, Denver.
Nickerson, Wm. M., Denver.
O'Connor, J. W., Denver.
Otis, W. D., Ft. Morgan.
Owens, D. W., Colorado Springs.
Packard, Wm. A., Monte Vista.
Palmer, T. D., Canon City.
Parkhill, Clayton, Denver.
Peavey, J. L., Colorado Spgs.
Pennock, V. R., Cripple Creek.
Perkins, I. B., Denver.
Perkins, J. M., Denver.
Pfeiffer, Oscar J., Denver.
Phelps, Mary E., Canon City.
Phillips, Geo. W., La Junta.
Pollock, R. M., Rocky Ford.
Porter, Frank R., New Windsor.
Potts, Chas. N., Silverton.
Powers, Chas. A., Denver.
Powers, J. J., Denver.
Queal, E. B., Boulder.
Rader, W. H., Silverton.
Rawson, C. D., Denver.
Raynor, Willis J., Ft. Logan.
Reasoner, P. W., Colorado Spgs.
Reed, Walter W., Fowler.
Richmond, Chas. B., Denver.
Riley, W. H., Boulder.
Rivers, E. C., Denver.
Robinson, Lesco A., Glenwood.
Robinson, A. J., Aspen.
Robinson, Martin A., Victor.
Robinson, Wm. K., Denver.
Roberts, U., Denver.
Robertson, Eugene H., Boulder.
Roehrig, G. F., Denver.
Rogers, E. J. A., West Denver.
Rogers, Frank E., Littleton.
Rothwell, W. J., Denver.
Rothwell, Edwin J., Denver.
Roseberry, B. S., Victor.
Rothwell, Peter D., Denver.
Rover, Hy W., Denver.
Rowan, W. W., Ouray.
Seebass, Alfrede R., Denver.
Sewall, Hy, Denver.
Sharpley, Wm. H., Denver.
Sheets, Elmer A., Denver.
Shippey, Orland P., Villa Grove.
Shotwell, Wm. E., Denver.
Shollenberger, C. F., Denver.
Shultz, Wm. M., Denver.
Sigman, Horace G., Rocky Ford.
Simon, Saling, Denver.
Singer, Wm. Frederic, Pueblo.
Sirois, Eucharisten, Denver.
Smith, Frank M., Holyoke.
Smith, J. W., Creston.
Smith, J. Sol., Denver.
Smith, Walter W., Erie.
Snitcher, Hy C., Denver.
Solenberger, A. R., Colorado Spgs.
Solly, E. S., Colorado Spgs.
Spratlin, Paul E., Denver.
Spivak, Chas. D., Denver.
Stedman, Arnold, Denver.
Stevens, E. W., Denver.
Stiver, Thos. J., Denver.
Stockett, Ben F., Denver.
Stover, Geo. H., Denver.
Strickler, W. M., Colorado Spgs.
Stuver, E., Ft. Collins.
Sumner, C. O., Fairplay.
Sutherland, W. B., Loveland.
Swan, Will H., Colorado Springs.
Taylor, Hugh L., Denver.
Taylor, Thos. E., Denver.
Teele, May B., Denver.
Thomas, J. N., Denver.
Townsend, Sarah May, Denver.
Trovillion, Edward B., Gold Hills.
Tullis, R. H., Eldora.
Tyler, Geo., Denver.
Van Meter, S. D., Denver.
Vaughan, E. R., Denver.
Vroom, John N., Denver.
Wade, P. A., Canon City.
Warren, Hobart E., Denver.
Waxham, Frank E., Denver.
Webb, G. B., Colorado Spgs.
Welles, Fred'k H., Victor.
Wetherill, Horace G., Denver.
Wheaton, C. L., Denver.
Whitney, Herbert B., Denver.
Whiting, J. A., Cripple Creek.
Whitmore, Edward D., Leadville.
Wiest, Sard, Longmont.
Wills, John T., Sulphur Springs.
Williams, A. H., Denver.
Williams, C. H., Manzanola.
Williams, Sherman, Denver.
Wilson, W. E., Denver.
Wolfer, Carl F., Louisville.
Wood, Ellen M., Denver.
Wooding, Benj. F., Denver.
Worthington, A. K., Denver.

CONNECTICUT.

Abrams, Alva E., Hartford.
Alexander, L. D., New Canaan.
Alling, Arthur N., New Haven.
Almy, L. B., Norwich.
Alton, C. D., Hartford.
Bacon, Wm. T., Hartford.
Bailey, Michael A., Hartford.
Baker, Frank B., E. Norwalk.
Barber, Walter L., Waterbury.
Barnes, Lewis, Oxford.
Beach, Chas. C., Hartford.
Beckwith, F. E., New Haven.
Bill, Curtis H., Bridgeport.
Bishop, T. H., New Haven.
Boucher, John B., Hartford.
Bouton, Geo. B., Westport.
Brayton, Chas. E., Stonington.
Calef, J. Francis, Middletown.
Carrington, Chas., Farmington.
Case, Ida R. Gridley, Collinsville.
Cassidy, Patrick, Norwich.
Castle, F. E., Waterbury.
Cobb, A. E., Falls Village.
Craigg, C., Danbury.
Crane, A. A., Waterbury.
Crary, D., Jr., Hartford.
Crothers, Thos. D., Hartford.
Curtis, Wm. M., Cornwall Bridge.
Davis, Emory H., Plainfield.
Day, L. T., Westport.
Donaldson, Wm. H., Fairfield.
Douglass, Edmon P., Grotin.
Eliot, G., New Haven.
Elmer, Edward O., Hartford.
Felty, J. W., Hartford.

Foote, Chas. J., New Haven.
Fox, Chas. J., Willimantic.
Fox, Morton L., Uncasville.
Fox, E. G., Wetherford.
French, Howard T., Deep River.
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Goodwin, Ralph S., Thomaston.
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Guild, Frank E., Windham.
Hall, E. D., Meriden.
Hazen, Miner C., Haddam.
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Keniston, Jas. M., Middletown.
Kimball, Rush W., Norwich.
Knight, Geo. H., Lakeville.
Lambert, B. L., New Haven.
Law, Homer L., Hartford.
Lewis, G. F., Collinsville.
Lindsley, Chas. A., New Haven.
Lindsley, C. Purdy, New Haven.
Lowe, R. W., Ridgefield.
Lynch, John C., Bridgeport.
Lyon, Edwin B., New Britain.
MacLaren, Wm. S., Litchfield.
McDonnell, R. A., New Haven.
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McManus, James, Hartford.
Mailhouse, Max, New Haven.
Mason, Lewis D., Greenwich.
Mayer, Nakon, Hartford.
Moody, Mary B., New Haven.
Morrell, F. A., Putnam.
Nelson, A. W., New London.
O'Connor, Matt C., New Haven.
O'Laughlin, T. F., Rockville.
Osborn, G. W., Bridgeport.
Osborne, Oliver T., New Haven.
Otis, Samuel D., Meriden.
Overlock, S. B., Pomfret.
Paddock, Lewis F., Norwich.
Perry, J. G., Ridgefield.
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Plummer, Paul, Collinsville.
Poore, J. R., Waterbury.
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Pratt, Elias, Torrington.
Randall, W. Sherman, Derby.
Rankin, C. G., Glastonbury.
Robinson, Rienzi, Danielsville.
Rodman, C. S., Waterbury.
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Root, E. K., Hartford.
Russell, W. S., Wallingford.
Ruland, F. D., Westport.
Sheedy, Bryan D., Bridgeport.
Shelton, Gould A., Shelton.
Shepherd, G. R., Hartford.
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Smith, Fred S., Chester.
Smith, Edward M., Newton.
Smith, Oliver C., Hartford.
Smith, Frank L., Bridgeport.
Smith, Marion, New Haven.
Stearns, H. P., Hartford.
Sullivan, Daniel F., Hartford.
Trecartin, David M., Bridgeport.
Turner, S. W., Chester.
Tuttle, Albert Lake, Milford.
Tuttle, Chas. A., New Haven.
Watson, W. S., Danbury.
Weidner, Calvin C., Manchester.
Whittemore, F. H., New Haven.
Williams, Chas. C., Hartford.
Williamson, A. N., New London.
Wilson, F. M., Bridgeport.
Winchell, Alverd E., New Haven.
Wright, J. W., Bridgeport.

DELAWARE.

Burton, Hiram R., Lewes.
Bastian, Jos. W., Wilmington.
Belville, Frank, Delaware City.
Bishop, L. A. H., Dover.
Chandler, Swithin, Wilmington.
Cook, Thos. D., Wilmington.
DeWitt, John W., St. George.
Dickson, Morton P., Glen Riddle.
Elbert, Samuel G., Wilmington.
Ellegood, Robt., Jr., Delmar.
Ellegood, Robt. G., Concord.
Ellegood, J. A., Wilmington.
Fowler, Edward, Laurel.
Frist, Harry M., Wilmington.
Haines, W. F., Seaford.
Hopkins, J. A., Milton.
Lewis, B. L., Harrington.
Marshall, Wm., Milford.
Massey, Jas. T., Canterbury.
Orr, W. P., Jr., Lewis.
Palmer, J., Jr., Wilmington.
Robinson, O. D., Georgetown.
Springer, Willard, Wilmington.
Spruance, Henry R., Wilmington.
Stevens, H. C., Wilmington.
Stubbs, H. J., Wilmington.
Vallindigham, I. S., Middletown.
Veasey, Benj. R., Wilmington.
Wilson, Jas. H., Dover.

NORTH DAKOTA.

Aylen, Jas. P., Sheldon.
Beaudoux, H. A., Fargo.
Bodenstab, Wm. H., New Salem.
Branch, Edward C., Wheatland.
Brown, J. O., Minnewaukon.
Campbell, R. D., Grand Forks.
Campbell, F. J., Fargo.
Carpenter, G. A., Fargo.
Carr, Andrew, Northwood.
Devitt, T. G., Grand Forks.
Eggers, August, Grand Forks.
Emmanuel, H. W., Milnor.
Evans, Edw. B., Fargo.
Healy, Hy H., Michigan City.
Hotson, John M., Grandin.
Jones, W. D., Devil's Lake.
McDonald, P. E., Fort Yates.
MacLachlan, C., New Rockford.
McConnell, J. DeWitt, Fargo.
McIntyre, Geo., Mayville.
Maercklein, F. W., Ashley.
Miner, Frank B., Gardner.
Moeller, Thos. O. E., Ft. John.
Moore, Dwight S., Jamestown.
Philip, W. H. M., Hope.
Platon, L. S., Valley City.
Reilly, Jas. J., Milton.
Rindlaub, J. H., Fargo.
Rowe, H. J., Castleton.
Shanely, Chas. M., Lidgerwood.
Sherping, Olaf T., Enderlin.
Smyth, F. R., Bismarck.
Sorkness, P., Fargo.
Stickney, Victor H., Dickinson.
Taylor, John D., Grand Forks.
Wear, I. N., Fargo.
Wheeler, H. M., Grand Forks.

SOUTH DAKOTA.

Bowman, A. H., Deadwood.
Cox, Fred'k W., Vermillion.
Coyne, S. J., Aberdeen.
Crain, M. F., Redfield.
Dickinson, D. K., Lead.
Edgerton, W. E., Salem.
Elliott, A. V., Beresford.
Freeman, J. W., Lead City.
Gross, C. C., Yankton.
Hohf, S. M., Yankton.
Kutnewsky, J. K., Redfield.
Lasher, B. W., Armour.
Martin, J. H., Centerville.
Miller, E. C., Brookings.
Moody, R. L., Aberdeen.
Noble, Harry B., Howard.
Rudgers, D. W., Yankton.
Smith, W. G., Sturgis.
Spafford, Frank A., Flandreau.
Stewart, J. L., Irene.
Swezey, F. A., Wakonda.
Torrence, W. W., Deadwood.

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Barnes, Noble Price, Washington.
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Johnson, Wallace, Washington.
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Kolipinski, Louis, Washington.
Lamb, Dryden S., Washington.
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Muncaster, Otho M., Washington.
Parsons, Mary, Washington.
Pool, B. G., Washington.
Raub, J. F., Washington.
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Repetti, F. F., Washington.
Reville, L. M., Washington.
Reyburn, Robert, Washington.
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Rixey, P. M., Washington.
Robbins, H. A., Washington.
Rosenau, Milton J., Washington.
Schweinitz, E. A. de, Washington
Simpson, Jno. C., Washington.
Smart, Major Chas., Washington.
Smith, Chas. B., Washington.
Smith, T. C., Washington.
Sothoron, Elmer, Washington.
Sowers, Z. T., Washington.
Sprigg, W. Mercer, Washington.
Stafford, J. J., Washington.
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Sternberg, C. M., Washington.
Stone, Isaac S., Washington.
Storch, A. Bernard, Washington.
Strickler, M. B., Washington.
Suddarth, Jas. L., Washington.
Swain, Oliver A. T., Washington.
Thompson, J. F., Washington.
Tompkins, E. L., Washington.
Toner, J. E., Washington.
Vaughan, George Tulley, Washington.
Walsh, John E., Washington.
Walsh, Ralph, Washington.
Warren, Ben S., Washington.
West, G. W [illegible]
Wilmer, W. [illegible]
Winter, John [illegible]
Woodward, W. C., Washington.
Woodward, R. M., Washington.
Woodhull Alfred A., Washington.
Wyman, Walter, Washington.
Yarnall, J. H., Washington.
Yarrow, H. C., Washington.
Young, J. T., Washington.

FLORIDA.

Altree, G. H., Port Tampa City.
Anderson, W. E., Pensacola.
Anderson, T. S., Live Oak.
Arnold, E. S. F., Mandarin.
Atwood, E. C., Dayton.
Bird, Urban S., Tampa.
Blocker, L. de W., Chattahoochee.
Caldwell, F. H., Jacksonville.
Coleman, H. A., Mandarin.
Cuzner, A. T., Gilmore.
DeLong, W. H., Emporia.
DePass, M. H., Archer.
Douglas, J. W., Tampa.
Drew, C., Jacksonville.
Hodges, J. Harrison, Gainesville.
Hughlett, W. L., Cocoa.
Lancaster, R. A., Gainesville.
McGinnis, R. H., Jacksonville.
McKee, W. P., Eustis.
McLane, J. N., DeFuniak Spgs.
Maloney, J. B., Key West.
Martin, I. W., Quincy.
Murry, R. D., Key West.
Myers, T. J., Bowling Green.
Newsom, W. V., Ocala.
Plummer, J. W. V. R., Key West.
Porter, J. Y., Key West.
Potter, R. B., West Palm Beach.
Rush, Warren B., Oakland.
Sabal, E. T., Jacksonville.
Shepard, G. W., Chattahoochee.
Simmons, E. C., Cocoanut Grove.
Smith, Dan. M., Ocala.
Stebbins, Hy. H., Tampa.
Steen, A. M., Palatka.
Stringer, S., Brooksville.
Sweeting, C. B., Key West.
VanHood, E., Ocala.
Worcester, O. E., Conant.
Worley, S. G., St. Augustine.
Wright, *Olin S. Plant City.*

GEORGIA.

Amster, Ludwig, Atlanta.
Avant, Admiral L. R., Patterson.
Bailey, J. W., Gainesville.
Baird, Jas. B., Atlanta.
Baldwin, M. A., Cuthbert.
Bardwell, E. L., Talbotton.
Bell, W. Jay, Atlanta.
Benedict, Samuel C., Athens.
Braselton, B. F., Pendergrass.
Brigham, W. R., Dublin.
Bryans, R. G., Jackson.
Bullard, W. L., Columbus.
Burford, H., Brunswick.
Burt, A. M., Macon.
Burns, J. K., Clarksville.
Calhoun, A. W., Atlanta.
Campbell, W. E., Atlanta.
Champion, W. L., Atlanta.
Childs, J. A., Atlanta.
Clark, Mollie A., Macon.
Coleman, T. D., Augusta.
Collins, Katharine R., Atlanta.
Connally, E. L., Atlanta.
Cooper, Hunter P., Atlanta.
Corbin, Marion X., Savannah.
Cortelyou, P. R., Marietta.
Cox, Ross P., Rome.
Crawford, J. M., Atlanta.
Currie, Malcom L., Savannah.
Daniel, J. W., Savannah.
Davis, Jeff, Toccoa.
Davis, E. C., Atlanta.
Davis, W. L., Albany.
Dean, Jarvis G., Dawson.
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Drewry, T. Ellis, Griffin.
Duggan, J. H., Stephensville.
Duncan, W., Savannah.
Duncan, J. W., Atlanta.
Earnest, J. G., Atlanta.
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Farmer, J. L., Savannah.
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Grimes, Geo. J., Columbus.
Hall, T. M., Milledgeville.
Hardman, L. G., Harmony Grove.
Hardman, W. B., Harmony Grove
Harris, R. B., Savannah.
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Holliday, W. Z., Augusta.
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Holbrook, W. H., Dalton.
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Hoyt, W. D., Rome.
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Hurt, C. D., Atlanta.
Hutchins, Millie B., Atlanta.
Izlar, R. P., **Waycross.**
Jarrell, J. G., **Savannah.**
Jenkins, R. [illegible] ille
Johnson, J. [illegible]
Keaton, P. [illegible]
Kime, Ru [illegible]
Lane, [illegible]

Lattimore, R., Savannah.
Lovvorn, J. L., Bowdon.
McCurry, Isham L., Hartwell.
McDuffie, J. H., Columbus.
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McLean, J. L., Birdforce.
McMaster, H. B., Wynesboro.
McRae, Floyd W., Atlanta.
Malone, J. D., Marietta.
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Owens, Wm. W., Savannah.
Paine, H. M., Atlanta.
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Powell, T. O., Milledgeville.
Powell, Buna C., Villa Rica.
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Rose, John R., Eastman.
Roy, Dunbar, Atlanta.
Roy, Gustavus G., Atlanta.
Rumble, Smith, Gogganville.
Scott, Hy F., Atlanta.
Sharp, L. J., Harmony Grove.
Shorter, J. H., Macon.
Slack, Hy R., La Grange.
Smith, Claud A., Atlanta.
Spears, Wm. T., Rutledge.
Spears, A. Foster, Farrar.
Spense, J. M., Jr., Waresboro.
Stapler, Marvin M., Macon.
Stephens, L. P., Atlanta.
Stovall, Albert S. J., Elberton.
Summerfield, J. E., Atlanta.
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Terrell, H. W., La Grange.
Terry, W. R., Shellman.
Thomson, R. M., Savannah.
Travis, Wm. D., Covington.
Tuten, Jas. G., Jesup.
Walker, T. D., Cochran.
Walker, J. L., Waycross.
Warning, T. P., Savannah.
Westmoreland, W. F., Atlanta.
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Whitehead, W. H., Atlanta.
Wilcox, G. A., Augusta.
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Wimberly, W. C., Fort Gaines.

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Baldwin, L. Blake, Chicago.
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Barrett, E. J., Chicago.
Barlow, L. N., Chicago.
Bates, M. DaCosta, Chicago.
Baum, Wm. L., Chicago.
Bausman, A. B., Chicago.
Beard, C. H., Chicago.
Beardsley, Jennie A., Chicago.
Beck, Carl, Chicago.
Beery, C. C., Chicago.
Belknap, F. W., Chicago.
Berg, L. M., Chicago.
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Besharian, J. H., Chicago.
Bettman, Boerne, Chicago.
Beverige, T. F., Chicago.
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Brown, Heman, H., Chicago.
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Chapman, C. F., Chicago.
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Church, Walter F., Chicago.
Class, W. J., Chicago.
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Cole, Samuel, Chicago.
Coey, A. J., Chicago.
Coleman, W. F., Chicago.
Conboy, Daniel, Chicago.
Conley, T. J., Chicago.
Connell, F. C., Chicago.
Cook, J. C., Chicago.
Cooke, A. H., Chicago.
Coolidge, F. S., Chicago.
Cory, A. L., Chicago.
Cotton, A. C., Chicago.
Coulter, J. Homer, Chicago.
Cunningham, D. H., Chicago.
Cushman, H., Chicago.
Dahl, Svenning, Chicago.
Dal, J. W., Chicago.
Danforth, I. N., Chicago.
Davis, C. G., Chicago.
Davis, Thos. A., Chicago.
Davis, Nathan S., Chicago.
Davis, N. S., Jr., Chicago.
Davis, Effa V., Chicago.
Davis, W. C., Chicago.
Davison, C., Chicago.
Davenport, Nora Soulé, Chicago.
De Lee, Joseph B., Chicago.
Deming, H. H., Chicago.
Dennis, G. J., Chicago.
De Veny, S. C., Chicago.
Dewey, F. J., Chicago.
Dickson, W. F., Chicago.
Dickinson, Frances, Chicago.
Dickerman, Ed. T., Chicago.
Dodd, Oscar, Chicago.
Dodds, R., Chicago.
Doering, E. J., Chicago.
Doherty, D. J., Chicago.
Dubs, Rudolf S., Chicago.
Dudley, E. C., Chicago.
Duncan, W. E., Chicago.
Eads, D. D., Chicago.
Eads, B. B., Chicago.
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Edwards, Arthur R., Chicago.
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Engelman, Rosa, Chicago.
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Faber, P. J., Chicago.
Favill, Henry B., Chicago.
Fenger, Christian, Chicago.
Ferguson, A. H., Chicago.
Fisher, W. A., Chicago.
Fisher, J., Chicago.
Fiske, G. F., Chicago.
Frank, Jacob, Chicago.
Frankenthal, Lester G., Chicago.
Frankenstein, V. S., Chicago.
Frothingham, H. H., Chicago.
Fuller, W., Chicago.
Furlong, M., Chicago.
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Oren, S. A., Lanark.
Owens, A. E., Princeton.
Oyler, P. H., Mt. Pulaski.
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Palmer, [illegible]
Parke
[illegible]
Pat

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Pettit, J. W., Ottawa.
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Rafferty, T. N., Robinson.
Rathburn, F. D., New Windsor.
Reder, F., New Athens.
Regan, E. W., Canton.
Rendleman, J. W., E. St. Louis.
Rice, J. H., Quincy.
Rice, E. E., Allison.
Richards, Wm. M., Joliet.
Richardson, Martha Ann, Canton.
Richings, Dr. H., Rockford.
Ricker, S. J., Aurora.
Ringnell, F. O., Orion.
Rivard, Geo. I., Assumption.
Robertson, Thos., Steeleville.
Robinson, F. C., Wyanet.
Rogers, A. E., Bloomington.
Rook, C. W., Quincy.
Rosenberry, A. J., Oak Park.
Ross, O. W., Carrolton.
Roskoten, O. J., Peoria.
Rothgeb, H. D., East Lynn.
Rowe, Mark, Paris.
Rowe, J., Abingdon.
Roy, J. H., Kankakee.
Rulein, P. G., Joliet.
Russell, L. B., Hoopeston.
Ryan, L. R., Galesburg.
Sala, St. Elmo M., Rock Island.
Salter, A., Lena.
Schwartz, E., Knoxville.
Schneck, Jacob, Mt. Carmel.
Schiernitzauer, A., Millstadt.
Scott, J. W., Venice.
Scott, J. D., Time.
Shallenberger, W. E., Canton.
Sherman, W. P., Aurora.
Sherrick, C., Monmouth.
Shutt, Margaret T., Springfield.
Sihler, G. A., Litchfield.
Silvey, A. R., Murphysboro.
Skelly, J. I., Pekin.
Skinner, Cynthia A., Monmouth.
Slater, A. S., Wataga.
Slater, Catharine B., Aurora.
Sloan, W. K., Moline.
Smith, Lee, Bloomington.
Smith, A. C., Sterling.
Smith, C. F., Kankakee.
Smith, Chas. Ed, Palmyra.
Smith, H. W., Roadhouse.
Smith, Jos. W., Bloomington.
Smith, Wm. H. C., Godfrey.
Snow, F. H., Chadwick.
Snyder, J. F., Monroe Center.
Soule, C. E., Sheridan.
Sparling, Wm. H., Moweaqua.
Spear, L. E., Shirley.
Spear, J. W., Mason City.
Speed, J. N., Rushville.
Starkel, C. H., Belleville.
Standley, J. H., Alexis.
Standley, Emma B., Alexis.
Stealy, J. H., Freeport.
Stephenson, B. M., Peoria.
Stedman, W. E., Sullivan.
Stewart, J. T., Peoria.
Stone, C. A., Mason City.
Stoops, P. H., Ipava.
Stremmel, S. C., Macomb.
Studor, Jos., Peoria.
Sullivan, J. C., Cairo.
Sutton, E. M., Peoria.
Sutton, J. E., Canton.
Swan, W. S., Harrisburgh.
Sweetland, W. M., Highland Park.
Swensson, J. G., Moline.
Taylor, A. D., Springfield.
Taylor, L. C., Springfield.
Taylor, J. T., Buda.
Ten Broeck, W. H., Paris.
Thomas, C. D., Peoria.
Tibbets, L., Rockford.
Tombaugh, L. H., Waukegan.
Tope, J. W., Oak Park.
Trout, W. A., Atwater.
Trout, J. J., Nashville.
True, Charles, Kankakee.
Tulley, F. E., Granite City.
Tuthill, John A., Le Roy.
Tweddale, Jas., Washburn.
Tyler, J. H., Clinton.
Uran, B. F., Kankakee.
Van Benschalen, Wm. C., South Chicago.
Van Horne, A. K., Jerseyville.
Vance, N. Noble, Bement.
Vertrees, C. M., Murrayville.
Wadsworth, J. L. R., Collinsville.
Wakely, T. A., Jacksonville.
Walbright, G. W., Round Knob.
Wallace, F. E., Monmouth.
Walker, J. B., Effingham.
Walker, S. R., Chebanse.
Watson, W., Mt. Vernon.
Webster, J. R., Monmouth.
Weidner, M. R., Dolton's Station.
Weir, John, West Union.
Weir, L. J., West York.
Weis, E. W., Ottawa.
Werner, F. W., Joliet.
Westgate, Letitia A., Sycamore.
Wheeler, G. W., Prophetstown.
Wheeler, H., Grant Park.
White, Marion L., Dixon.
White, J. L., Bloomington.
White, J. T., Freeport.
White, Solon C., Somonauk.
White, Solon M., Somonauk.
Whitney, J. D., Petersburg.
Whitten, T. J., Nokomis.
Whitten, H. H., Peoria.
Wiggins, J. L., East St. Louis.
Wilkinson, G. E., Alton.
Will, O. B., Peoria.
Williams, T. W., Casey.
Williams, W. W., Quincy.
Williamson, J. H., Assumption.
Wilhelmj, C. F., East St. Louis.
Willard, E. R., Wilmington.
Wilson, A. A., Davis.
Winn, G. L., Rockford.
Winn, C. S., Byron.
Winslow, F. C., Jacksonville.
Wood, J. H., Champaign.
Woodruff, H. W., Joliet.
Wright, J., Clinton.
Wylie, S. W. Paxton.
Zeller, G. A., Peoria.

IDAHO.

Brown, Newell J., Hailey.
France, H., Wardner.
Genoway, C. V., Wallace.
Givens, John W., Blackfoot.
Hunter, A., Kendrick.
La Rue, F., Idaho Falls.
Maxey, E. E., Caldwell.
Monroe, Jas., Custer.
Myers, M. C., Blackfoot.
Nourse, R. L., Hailey.
Ormsby, O. C., Pocatello.
Pendleton, G. W., Idaho Falls.
Smith, W. F., Mountain Home.
Sweet, C. L., Boise.
Watkins, W. W., Moscow.
Waterhouse, G. M., Weiser.
Wetzel, T. E., Council.

INDIAN TERRITORY.

Allen, E. N., South McAlester.
Blakemore, J. L., Muscogee.
Bond, Robt., Hartshorne.
Clinscales, Albert M., Vinita.
Clinton, F. S., Tulsa.
Fite, F. B., Muskogee.
Ford, W. H., Fairland.
Fortner, B. F., Cherokee Nation.
Hardy, J. J., Sutter.
Herron, A. W., Adair.
Long, LeRoy, Caddo.
Tilly, W. T., Pryor Creek.
West, G. W., Eufaula.

INDIANA.

Ader, W., Somerset.
Anderson, R. S., Princeton.
Annis, E. L., La Porte.
Aspinwall, N. B., Plymouth.
Bacon, C. P., Evansville.
Bailey, G. D., Spiceland.
Ball, J. R., Lebanon.
Ball, Thomas Z., Waveland.
Ball, L. L., Muncie.
Banker, A. J., Columbus, Ind.
Barnhill, J. F., Indianapolis
Beasley, G. F., *Lafayette*.
Beatty, William H., Worthington.
Becknell, Irvin J., Milford.
Begley, B., Inglefield.
Bell, Guido, Indianapolis.
Bell, W. H., *Logansport*.
Beramer, J. M., Indianapolis.
Berteling, J. B., South Bend.
Bick, J. M., *Hammond*.
Biggerstaff, James T., Bippus.
Binkley, J. T., Sr., Evansville.
Blitz, L. B., Evansville.
Bloomfield, E. M., Peru.
Blount, R. F., Wabash.
Blue, C. L., Tocsin.
Bock, Chas., Ft. Wayne.
Bolling, L. A., Attica.
Bond, C. S., Richmond.
Boswell, A. J., Elkhart.
Bower, G. B. M., Ft. Wayne.
Boyers, J. S., Decatur.
Brayton, A. W., Indianapolis.
Brown, B. A., Indianapolis.
Brownback, O. W., Pendleton.
Brose, L. D., Evansville.
Bruner, C. K., Greenfield.
Brucker, C. M., Tell City.
Brunker, J. W., Riley.
Brecklin, G. W., Muncie.
Buckman, A. B., Ft. Wayne.
Bulson, A. E., Jr., Ft. Wayne.
Burckhardt, L., Indianapolis.
Burke, G. W., Newcastle.
Burket, Calvin W., Warsaw.
Burcham, H. C., Albany.
Campbell, F., Shelbyville.
Cantrell, F. A., Evansville.
Carey, W. W., Spencerville.
Carson, L. O., Traders Point.
Carson, J. C., Valparaiso.
Carson, W. F., Huntington.
Carter, C., Brookville.
Chafee, W. C., Huntington.
Chaffee, J. A., Yeoman.
Chenoweth, F. A., Winchester.
Chittick, Chas., Frankfort.
Christie, J. H., Canaan.
Cline, L. C., Indianapolis.
Coleman, A., Logansport.
Collins, C. C., Roachdale.
Conley, L. H., Gas City.
Cook, C. J., Gwynneville.
Cook, C. P., New Albany.
Cook, J. W., Pendleton.
Cook, Geo. J., Indianapolis.
Cook, L. H., Bluffton.
Cowing, H. A., Muncie.
Cooperider, J., Madison.
Copeland, Chas. C., N. Madison.
Cosby, G. O., Burnsville.
Cottingham, I. E., Evansville.
Cox, Edgar, Kokomo.
Cox, D. A., Howell.
Crapo, G. W., Terre Haute.
Crapo, J. R., Terre Haute.
Crockett, L. A., Indianapolis.
Cromer, L. G., Union City.
Crull, E. A., Ft. Wayne.
Culbertson, Scott, Vevay.
Cummings, S. M., Elkhart
Cushman, Abaces, Graysville.
Dalgleish, H. T., Vevay.
Darby, A. B., Waterloo.
Davis, Eugene, Indianapolis.
Davis, L. N., Farmland.
Daugherty, C. A., South Bend.
Dean, E. R., South Bend.
Defrees, H. J., Napanee.
Deming, N. L., Ft. Wayne.
Dickey, A. S., Tipton.
Dove, S. C., Westfield.
Downing, J. R., Yorktown.
Drayer, P., Hartford City.
Drayer, L. Park, Ft. Wayne.
Duncan, J. B., Bedford.
Dunning, L. H., Indianapolis.
Eastman, Fred P., South Bend.
Eastman, Joseph, Indianapolis.
Eastman, J. Rilus, Indianapolis.
Eastman, Th. B., Indianapolis.
Easley, E. P., New Albany.
Eberhard, E. L., South Whitley.
Eckelman, F. C., Elkhart.
Edenharter, G. F., Indianapolis.
Eidson, J. W., Bourbon.
Eichelberger, W. C., Terre Haute.
Emery, C. H., Bedford.
English, C. H., Ft. Wayne.
Evans, C. S., Union City.
Faith, A. H., Washington.
Fairfield, W. J., Anderson.
Fankboner, W. A., Marion.
Fermier, P. G., Leesburg.
Ferree, S. L., Indianapolis.
Ferris, E. S., New Castle.
Fink, Henry A., South Bend.
Finley, G. W., Brazil, Ind.
Fitch, A. P., Lebanon.
Flack, O. M., Ambia.
Fletcher, C. I., Indianapolis.
Fletcher, W. B., Indianapolis.
Flynn, Wm., Marion.
Fodrea, Zeri H., Westfield.
Frank, H. P., Losantville.
Freeman, E. D., Osgood.
Friermood, E. K., Greentown.
Fullinwider, C. H., Mt. Vernon.
Furniss, S. A., Indianapolis.
Gaddy, Orville, Paris Crossing.
Galbraith, T. S., Seymour.
Garey, D., New Albany.
Garber, J. B., Dunkirk.
Garretson, W. M., Perkinsville.
Garver, J. J., Indianapolis.
Gaylord, H. G., Indianapolis.
Geary, J. K., Coesse.
Gerrish, M. F., Seymour.
Gers, H., Washington.
Gilbert, W. H., Evansville.
Goldsberry, J. A., Bloomingdale.
Goodale, C. W., Metz.
Goodin, S. A., Montpelier.
Graham, Hannah M., Indianapolis.
Graham, Alois B., Indianapolis.
Grant, G. H., Richmond.
Greene, Geo. R., Muncie.
Green, E. V., Martinsville.
Greenawalt, G. L., Ft. Wayne.
Griswold, E. H., Peru.
Gumair, C. H., Evansville.
Hadley, E., Indianapolis.
Hager, W. A., South Bend.
Hall, Homer J., Franklin.
Hall, Joseph E., Alexandria.
Hall, John W., Portland.
Hamilton, S. M., Connersville.
Hardman, R. H., Converse.
Harris, Robt. W., New Albany.
Hartloff, Chas. W., Evansville.
Haughton, R. E., Richmond.
Haworth, M. C., Noblesville.
Hayden, A. M., Evansville.
Hayes, F. W., Indianapoli.
Hays, G. C., Hays, Hillsboro.
Hazelwood, J., New Albany.
Heath, F. C., Indianapolis.
Helm, Chas. J., Peru.
Henley, A., Fairmount.
Henry, W. C Aurora.
Herrmann, A. J., Logansport.
Hesler, G. F., Tocsin.
Hessler, Robert, Logansport.
Hewins, W. A., Chandler.
Hibberd, J. F., Richmond.
Hickes, C., Mt. Vernon.
Hill, J. W., South Bend.
Hodges, E. F., Indianapolis.
Holder, R. E., Columbus.
Hollingsworth, S. G., Harlan.
Holtzendorff, A. C., Plymouth.
Hood, T. C., Indianapolis.
House, John W., Lawrenceburg.
Humphreys, F. B., Angola.
Hunt, B. S., Winchester.
Hunt John W., Anderson.
Hunt, J. S., W. Terre Haute.
Hunt, M. V., Anderson.
Hurty, John N., Indianapolis.
Inks, J. S., Napponee.
Inlow, I. W., Blue Ridge.
Jaeger, A. S., Indianapolis.
Jameson, H., Indianapolis.
Jay, M. T., Portland.
Jenkins, W. O., Terre Haute.
Jennings, W. L., Bridgeport.
Jones, H. E., Anderson.
Jessup, Maria A., Friendswood.
Johnson, L., Bourbon.
Johnston, M. F., Richmond.
Jones, O. H., Crawfordsville.
Jones, Geo. E., Evansville.
Jones, W. A., Ft. Wayne.
Jordan, DeWitt, Indianapolis.
Justice, J. H., Greenfield.
Justice, W. A., Eden.
Kahlo, G. D., Indianapolis.
Keegan, C. J., Canal.
Kegley, J. L., Stones Crossing.
Keiper, G. F., La Fayette.
Kemper, Arthru T., Muncie.
Kemper, G. W. H., Muncie.
Kennedy, T. C., Shelbyville.
Kerth, J. H., Evansville.
Kimball, T. C., Marion.
Kimball, M. C., Converse.
King, W. R., Greenfield.
King, Jas. E., Centreville.
Kitson, F. S., N. Manchester.
Knapp, Geo., Vincennes.
Knapp, Chas., Evansville.
Knapp, A. J., Evansville.
Knapp, A. B., Washington.
Kolmer, J., Indianapolis.
Krausgrill, D., Chesterton.
Kremer, Nicholas A., Madison.
Kyle, J. J., Indianapolis.
Lammers, F. H., Greencastle.
Lanam, J. H., Franklin.
Lancaster, T. A., N. Manchester.
Lane, W. H., Angola.
Larkin, E. L., Terre Haute.
Lash, H. M., Indianapolis.
Laughlin, E. D., Orleans.
Lee, David F., Zionsville.
Lemmon, S. W., Albion.
Link, John E., Terre Haute.
Lister, Francis E, Brookston.
Little, J. A., Logansport.
Long, J. B., Indianapolis.
Loring, S. C., Burr Oak.

Lower, M. O., N. Manchester.
Lowder, Charles R., Pittsboro.
Lowder, L. T., Bloomington.
Lyons, J. H., North Webster.
McAllister, E. B., Terre Haute.
McCaskey, G. W., Ft. Wayne.
McCool, W. E., Evansville.
McCoy, P. Y., Evansville.
McCoy, G. T., Columbus.
McCoy, W. A., Madison.
McCully, C. H., Burnetts Creek.
McCutchen, J. H., Evansville.
McFadden, W. G., Shelbyville.
McIntyre, C. W., New Albany.
McKinney, D. R., Cowan.
McKinney, George W., Gas City.
McMahan, W. R., Huntingburgh.
McMahan, Adah, La Fayette.
McOscar, E. J., Ft. Wayne.
McShane, J. T., Indianapolis.
Mackey, C. W., Portland.
Maddox, L. E., Montpelier.
Malone L. A., Indianapolis.
Marlsbury, L. O., Peru.
Marvel, Chas., Richmond.
Mason, C. H., Tell City.
Masters, J. L., Indianapolis.
Matteson, D. E., Marion.
Mavity, D. E., Fowler.
Maxwell, A., Indianapolis.
Maxam, F. H., Princeton.
Meyer, J. W. H., La Porte.
Miley, Isaiah, Anderson.
Mills, C. C., Rey Key.
Miller, C. E., Muncie.
Mitchell, H. F., South Bend.
Moffett, E. D., Indianapolis.
Montgomery, H. T., South Bend.
Mooney, H. C., Laketon.
Morehead, T. W., Terre Haute.
Moore, P. G., Wabash.
Moore, M. G. Vincennes.
Moore, S. H., Indianapolis.
Morgan, W. V., Indianapolis.
Morris, J. E., Liberty.
Morris, J. L., Columbus.
Muelchi, Wm. H., Tell City.
Murray, Donn P., Dunkirk.
Murphy, C. W., Salem.
Myers, Wm. H., Fort Wayne.
Nash, G. W., Indianapolis.
Neier, O. C., New Palestine.
Newcomber, M. V. B., Tipton.
Newell, J. W., Denver.
Newton, W. T., Indianapolis.
Nieschang, C. C. F., Ft. Wayne.
Noble, T. B., Indianapolis.
Nourse, F. P., Alexandria.
Nussel, F., Brazil.
Oliver, J. H., Indianapolis.
Oneal, L., Somerset.
Overman, C. J., Marion.
Page, L. F., Indianapolis.
Pannenberg, J. C., Hammond.
Pantzer, H. O., Indianapolis.
Parsons, C. H. Rushville.
Passage, H. V. Peru.
Patterson, A. W., Indianapolis.
Perry, G. L., West Chester.
Peters, Daniel C., Greentown.
Peters, W. H., La Fayette.
Pettigrew, D. A., Flat Rock.
Pfaff, O. G., Indianapolis.
Pierson, A., Spencer.
Pigman, Garrett, Liberty.
Piske, G. W., Carlisle.
Porter, Miles F., Fort Wayne.
Powell, J. Z., Logansport.
Preston, J. L., Greencastle.
Price, W. A., Nappanee.
Proegler, C., Ft. Wayne.
Quillin, Sam. N., Carp.
Ramsbrok, C. R., Huntingburg.
Ramsey, D. C., Mt. Vernon.
Ranke, H., Ft. Wayne.
Ray, Chas. C., Arcadia.
Rea, C. L., Falmouth.
Rea, O. A., Culver.
Reagan, Jesse S., Lebanon.
Reed, J. H., Monticello.
Renner, M. E., Urbana.
Renner, J. H., Lagro.
Reyer, E. C., Indianapolis.
Reynard, G., Union City.
Rice, W. G., Muncie.
Ridenous, D., Chili.
Ridenour, D. C., Peru.
Ristine, W. H., Crawfordsville.
Ritter, C. L., Indianapolis.
Rogers, A. G., Parker City.
Roope, A. P., Columbus.
Rosenthal, I. M., Ft. Wayne.
Rosenthal, M. I., Ft. Wayne.
Ross, John H., Kokomo.
Rous Hannah C., Vevay.
Rubin, B., Michigan City.
Ryker, Chas., Manville.
Salb, J. P., Jasper.
Sanders, Frank E., Perryville.
Sassaman, F. W., Valparaiso.
Sawyer, F. M., South Bend.
Schaefer, C. R., Indianapolis.
Scherer, S. P., Indianapolis.
Schell, W., Terre Haute.
Schultz, Wm. H., Lebanon.
Schneck, Luella M., Indianapolis.
Sensenich, A. S., Wakarusa.
Sexton, J. C., Rushville.
Shackelford, T. J., Warsaw.
Shaffer, A. H., Huntington.
Sharp, H. C., Jeffersonville.
Shoemaker, S. A., Poneto.
Short, W. H., La Grange.
Showalter, J. E., Waterloo.
Short, R. B., Union Mills.
Shull, C., Montpelier.
Sigman, E. L., New Albany.
Simmon, L. A., Kokomo.
Smith, H. M., Vincennes.
Smith, Martha J., Indianapolis.
Spear, R., East Chicago.
Spencer, E. V., Mt. Vernon.
Spink, Mary A., Indianapolis.
Spitler, Chas. E., Saratoga.
Spooner, Jared, Peru.
Squires, James W., Cherubusco.
Stemen, C. B., Fort Wayne.
Stephenson, D. W., Richmond.
Stewart, Charles S., Garrett.
Stewart, J., Anderson.
Sterne, A. E., Indianapolis.
Stillson, J. O., Indianapolis.
Stockwell, J. S., Charleston.
Stockton, Sarah, Indianapolis.
Stolz, C., South Bend.
Stone, R. F., Indianapolis.
Storch, L. A. E., Indianapolis.
Sutton, Horley H., Aurora.
Sutcliffe, J. A., Indianapolis.
Swartz, W. W., Poe.
Swartz, D. J., Auburn.
Swafford, B. F., Terre Haute.
Tabor, F. A., Terre Haute.
Terrill, L. B., Anderson.
Terrell, W. H., Stilesville.
Terry, C. C., South Bend.
Teters, B. F., Middleburg.
Thomas, G. A., Linton.
Thompson, J. L.; Indianapolis.
Thompson, D. A., Indianapolis.
Thompson, W. N. Sullivan.
Thompson, F. B., Lafayette.
Tobias, A. W., Elwood.
Todd, L. L., Indianapolis.
Trent, I. N., Muncie.
Trueblood J. C., Loogootee.
Tucker, W. W., Greencastle.
Turner, S. R., Dyer.
Umberline, Charles D., Reese Mill.
Utz, Henry C., Atlanta.
Vance, Chas. E., Gas City.
Van Benschoten, G. W., S. Bend.
Van Swearingen, B., Ft. Wayne.
Varner, G. W., Evansville.
Varner, W. T., Evansville.
Varier, J. A., South Bend.
Veach, Patrick H., Stanton.
Vinnedge, W. W., Lafayette.
Wampler, J. M., Richmond.
Wahl, G. F., Bremen.
Wall, Francis M., Warren.
Walker, E., Evansville.
Waller, W. H., Angola.
Ward, J. O., Peru.
Ward, A. O., Indianapolis.
Wareham, J. W., Gilead.
Warner, Malvin E., Carlisle.
Washburn, I. B., Rensselaer.
Watts, E. K., Richmond.
Webster, J. C., Lafayette.
Weever, J. B., Evansville.
Wegner, W. G., South Bend.
Weist, J. R., Richmond.
Weist, Harry H., Richmond.
Weinstein, L. J., Terre Haute.
Welch, O. F., Westport.
Wertz, T., Evansville.
Wetherell, R. B., Lafayette.
Whery, Mary A., Ft. Wayne.
Whery, Wm. P., Ft. Wayne.
Wheelock, K. K., Ft. Wayne.
White, C. A., Danville.
White, E. G., La Grange.
White, R. P., Ft. Wayne.
Whitledge, Geo. A., Anderson.
Wiedemann, F. E., Terre Haute.
Williams, Thos. B., Angola.
Williams, Alice B., Columbia City.
Williams, W. S., Kendallville.
Williamson, P. E., Sweetser.
Willien, L. J., Terre Haute.
Wiles, F. M., Indianapolis.
Wilson, W., Yankeetown.
Wilson, A. L., Indianapolis.
Wilson, R. J., Salem.
Wirton, C. F., Washington.
Wishard, W. N., Indianapolis.
Woollen, G. V., Indianapolis.
Wood, H. D., Angola.
Wood, T. F., Angola.
Wood, W. F., Mishawaka.
Wood, E. U., Columbus.
Work, J. A., Elkhart.
Worrell, J. P., Terre Haute.
Worsham, L., Evansville.
Wright, E., Huntington.
Wright, T., Boonville.
Wynn, F. B., Indianapolis.
Young, S. J., Terre Haute.

IOWA.

Adair, A. W., Kellogg.
Aldrich, J. T., Murray.
Allen, W. L., Davenport.
Allen, C. W., Story City.
Amos, A. R., Des Moines.
Anderson, Albert, Esterville.
Andre, T. J., Schaller.
Armstrong, G. T., Osceola.
Ashby, A. A., Red Oak.
Bailey, H., Charles City.
Bailey, S., Mount Ayr.
Baker, E. L., Indianola.
Baker, C. W., Stanwood.
Baker, J. W. H., Davenport.
Ballah, Wm. J., Washta.
Bannister, M., Ottumwa.
Barnes, H. E. W., Creston.
Barnes, C. E., Burlington.
Bean, J. V., Fairfield.
Beam, W. W., Rolfe.
Beane, A. A., Burt.
Beatty, W. W., Dunlap.
Beggs, G. W., Sioux City.
Belt, A. L., Gilmore City.
Bergen, Andrew C., Sioux City.
Berry, R. P., Clermont.
Bethea, J. W., Des Moines.
Bierring, W. L., Iowa City.
Bigelow, I. S., Dubuque.
Biller, J. G., Cherokee.
Birney, C. C., Mason City.
Birney, E., Greene.
Bisgard, Jas., Harlan.
Blanchard, L., Edgewood.
Blaise, T. T., Mason City.
Bliss, C. S., LuVerne.
Bloodgood, Chas., Clinton.
Bond, L. L., Denison.
Boody, Geo., Independence.
Bowen, A. B., Maquoketa.
Bowman, L. J., Carroll.
Boyd, C. E. Newton.
Bradley, C. C., Manchester.
Brick, P. L., Le Mars.
Brockman, D. C., Ottumwa.
Branson, L. H., Iowa City.
Brawnson, J. D., Monona.
Brookings, D. J., Woodward.
Brooks, A. L., Audubon.
Brown, H. W., Waterloo.
Brown, F. E., Pringhar.
Brown, F. O., Lewis.
Buchanan, R. E., Independence.
Buck, S. C., Cresco.
Bundy, A. D., Osage.
Burd, Edwin, Lisbon.
Burt, C. I., Davenport.
Caldwell, S. A., Little Sioux.
Carson, J., Mt. Vernon.
Carson, A., Elliott.
Carver, W. F., Fort. Dodge.
Chamberlain, H. D., Nevada.
Chapman, R. R., Bridgewater.
Chapman, R. U., Des Moines.
Chatterton, A. S., Peterson.
Childs, R. F., Audobon.
Churchill, C. H., Ft. Dodge.
Clark, E. W., Grinnell.
Clarke, J. F., Fairfield.
Cleaves, L. R., Cherokee.
Coad, H. O., Hull.
Coakley, J. W., Mt. Etna.
Cokenower, J. W., Des Moines.
Cole, T. C., Thurman.
Conn, J. E., Ida Grove.
Conniff, Robt. E., Sioux City.
Cooling, A. A., Wilton Junction.
Cook, W. H., Niles.
Cook, C. E., New London.
Cooper, W. F., Clear Lake.
Cottle, C. C., Marshalltown.
Cottam, G. G., Rock Rapids.
Coveney, Mamie A., Clinton.
Craig, N. S., Manchester.
Crawford, A., Mt. Vernon.
Crawford, G. E., Cedar Rapids.
Crawford, J. P., Davenport.
Crawford, J. C., Waukon.
Cram, F. W., Sheldon.
Criley, B. H., Dallas Centre.
Crouse, E. A., Grundy Center.
Crouse, D. W., Waterloo.
Cushman, R. A., Sanborn.
Daily, Milton, Sheldon.
Darnall, C. D., West Union.
Darey, J. H., Northwood.
Dean, L. W., Iowa City.
Dean, H. M., Muscatine.
Dean, W. W., Sioux City.
Deering, A. A., Boone.
Detwiler, D. W., Moravia.
DeVaux, F. H., Des Moines.
Divine, J. H., Sioux Rapids.
Doan, H. C., Humbolt.
Dobson, G. H., LeGrande.
Doolittle, E. W., Garden Grove.
Dorsey, F. B., Keokuk.
Dower, T. J., Fonda.
Dudley, Elwin, Paullina.
Duffield, H. P., Marshalltown.
Duffy, E. A., Frederick.
Dunlavy, J. C., Sioux City.
Duncan, M. J., Pleasantville.
Eichelberger, Agnes, Sioux City.
Eiskamp, G. H., Washington.
Emmert, J. M., Atlantic.
Enfield, C., Jefferson.
Engle, H. P., Newton.
Eschbach, H. C., Albia.
Evans, O. E., Gowrie.
Evans, J. G., New Hartford.
Fairchild, D. S., Clinton.
Fellows, C. D., Valley Junction
Finch, H. C., Lynnville.
Finlayson, D. W., Des Moines
Finarty, J. W., Knoxville.
Fleming, J. C., Burlington.
Flinn, T. M., Spring Hill.
Fordyce, O., Guthrie Center.
Foxworthy, O. W., Weldon.
French, L., Davenport.
Gardner, Ira K., New Hampton.
Gearhart, G. W., Springville.
Getz, H. L., Marshalltown.
Gillin, C. W., Doon.
Goodrich, W. W., Mingo.
Goss, E. L., Sheffield.
Gould, G. S., Sully.
Graves, D., Gilman.
Gray, S. T., Albia.
Graham, J. DeWitt, Springville.
Gratiot, H. B., Dubuque.
Greene, J. H., Dubuque.
Griffin, C. C., Vinton.
Grimmell, G., Jefferson.
Gutch, W., Albia.
Guthrie, J. R., Dubuque.
Haecker, L. E., Hampton.
Hageboeck, A. L., Davenport.
Hamilton, C. H., Dubuque.
Hamilton, J., Cedar Rapids.
Hanawalt, G. P., Des Moines.
Hanna, Rebecca, Red Oak.
Harriman, W. E., Ames.
Hart, R. J., Charter Oak.
Hazen, E. H., Des Moines.
Hedges, T. M., Grinnell.
Hejinian, A. G., Anamosa.
Herrick, J. F., Ottumwa.
Heustis, J. W., Dubuque.
Hill, G. H., Independence.
Hill, Nancy M., Dubuque.
Hobby, G. M., Iowa City.
Hobson, T. A., Parkersburg.
Hobson, Abraham, Hampton.
Hoering, G. P., Walnut.
Holliday, J. W., Burlington.
Hornibrook, H., Cherokee.
Hostetter, J. I., Colo.
Houghton, F. W., Council Bluffs.
Hoyt, F. C., Mt. Pleasant.
Huecker, J., Lansing.
Hughes, J. C., Keokuk.
Hull, F. C., Carlisle.
Hunter, W. W., Monticello.
Hyatt, B. F., Ottumwa.
Irish, Harry R., Forest City.
Jackson, Daniel, Audobon.
James, C. E., Durham.
James, C. S., Centreville.
Jeffrey, J. A., Nevada.
Jenkins, G. F., Keokuk.
Jicinsky, J. R., Cedar Rapids.
Jepson, W., Sioux City.
Jewell, P. M., Decorah.
Johnson, F. S., Odebolt.
Johnson, A. H., Cedar Rapids.
Jolly, A., Hamburg.
Jonsson, Christian, Clinton.
Jones, N. Jasper, Shelby.
Jones, Louis H., Wall Lake.
Jungblut, H. C., Tripoli.
Keehl, F. W., Waterloo.
Keeley, E. A., Cedar Rapids.
Kegel, E. T., Walcott.
Keith, Katharyn E., Panora.
Kemmerer, O. T., Eldridge.
Kempker, J. F., Houghton.
Kenefick, M. J., Algona.
Kennedy, J. F., DesMoines.
Kessel, Geo., Cresco.
Kessler, A., Carroll.
Kester, G. W., Grand Junct[illegible]
Kierulff, [illegible] Marsh[illegible]
Kimbal[illegible] [illegible]est[illegible]
King, [illegible]at[illegible]

King, A. E., Blockton.
King, F. R., Anita.
Knott, Van Buren, Sioux City.
Knott, J. M., Sioux City.
Lacey, T. B., Council Bluffs.
LaForce, B. D., Ottumwa.
LaForce, W. B., Ottumwa.
LaGrange, J. W., Marion.
Langan, J. O., Clinton.
Langan, D., Clinton.
Lapsley, R. M., Keokuk.
Lauritzen, N. P., Exira.
Lawrence, Edw., Osceola.
Layton, H. R., Leon.
Leipziger, H., Burlington.
Lenty, A., Larchwood.
Lesan, C. T., Mt. Ayr.
Lessinger, W. S., Mt. Pleasant.
Lewellen, P. W., Clarinda.
Lindahl, J., Boone.
Lindsay, John J., Manchester.
Littig, L. W., Iowa City.
Little, F. H., Muscatine.
Livingston, H., Hopkinton.
Loose, David N., Maquoketa.
Louthan, B. S., Sutherland.
Love, J. S., Springville.
Lovelady, J. M., Sidney.
Luckey, J. E., Vinton.
Lytle, S. S., Iowa City.
McAllister, Chas., Spencer.
McAlvin, J. G., Grundy Center.
McCarthy, W. W., Des Moines.
McClain, W. H., Conrad Grove.
McClintock, J. T., Iowa City.
McClure, T. G., Doud's Station.
McClure, A. W., Mt. Pleasant.
McCleary, J. D., Indianola.
McCowen, Jennie, Davenport.
McColloch, G., Humeston.
McCray, Frank H., Schaller.
McFarlane, D., Keoto.
McGrath, W. C., Eagle Grove.
McKenzie, H. M., Elwood.
McMorris, J., Belle Plaine.
McMahon, G. T., Waukee.
Macrae, D., Sr., Council Bluffs.
Macrae, D., Jr., Council Bluffs.
Maker, L. E., Sac City.
Marner, W. A., Miles.
Maxwell, Thos. J., Keokuk.
Mead, F. N., Cedar Falls.
Mehler, F. C., New London.
Meredith, Marion, Vinton.
Merritt, W. H., Pleasantville.
Middleton, W. D., Davenport.
Miller, H. D., Audubon.
Minges, Geo., Dubuque.
Moon, A. C., Williamsburg.
Morgridge, G. O., Muscatine.
Morse, N. C., Eldora.
Mueller, J. A., Dyersville.
Munger, E. E., Spencer.
Murphy, F. G., Mason City.
Myers, W. H., Sheldon.
Nash, A. R., Tipton.
Naumann, P. C., Burlington.
Neff, Geo. R., Farmington.
Nelson, H. E., Dayton.
Newman, M. M., Edgewood.
Nicol, Jno. H., Villisca.
Nicoll, D. T., Clinton.
Norstrom, J. H., Boone.
Nossaman, A. J., Pella.
Nusum, Geo., Honey Creek.
Nysewander, C., Des Moines.
O'Keefe, C. J., Marble Rock.
Overholt, D. W., Columbus Junct.
Owen, W. E., Williamsburg.
Park, Wm. W., Indianola.
Park, G., Sioux City.
Parker, C. C., Fayette.
Parr, T. S., Indianola.
Patterson, M. F., Des Moines.
Pennington, B. S., Mediapolis.
Peters, W. T., Burt.
Philpott, J. W., Ft. Madison.
Porterfield, F. W., Atlantic.
Powell, Chas. B., Albia.
Powell, F. A., Sioux City.
Powers, J. C., Hampton.
Powers, T. E., Clarinda.
Preston, C. H., Davenport.
Priestly, Jas. T., Des Moines.
Putnam, T. L., Shenandoah.
Quinn, C. T., Meriden.
Rawson, A. A., Corning.
Rawson, C. D., Des Moines.
Raymer, H. S., Cedar Rapids.
Reynolds, M. S., Knoxville.
Resner, A. K., Manning.
Reynolds, E. M., Centreville.
Reynolds, H. R. Clinton.
Rice, C., Smithland.
Rice, N. J., Council Bluffs.
Riley, Jno., Exira.
Ristine, H. G., Fort Dodge.
Ristine, J. M., Cedar Rapids.
Roberts, Jason, Osceola.
Roberts, T., St. Charles.
Robertson, Chas. M., Davenport.
Robinson, J. L., Monroe.
Robinson, R. E., Frederika.
Robinson, S. E., West Union.
Rockwood, E. W., Iowa City.
Rogers, S. H., Red Oak.
Rohlf, W. A., Waverly.
Roome, J. C., Calmar.
Rood, L. D., Des Moines.
Rowe, G. D., Boone.
Ruml, W., Cedar Rapids.
Ruth, Chas. E., Keokuk.
Sampson, F. E., Creston.
Sawyers, J. L., Centerville.
Sayre, S. N., St. Charles.
Schifferle, E., Creston.
Schooler, L., Des Moines.
Scott, Clifton, Des Moines.
Scott, H., Paullina.
Scott, W. E., Adel.
Scroggs, J. A., Keokuk.
Sells, F. W., Murray.
Seybert, F. T., Council Bluffs.
Seymour, F. E., Ft. Dodge.
Sherman, W. B., Manchester.
Sherman, E. Amelia, National.
Sherman, A. W., Burlington.
Shipley, W. M., Ottosen.
Schuell, T. J., Parnell.
Schrader, J. C., Iowa City.
Sigworth, H. W., Anamosa.
Sisson, E. O., Keokuk.
Skinner, G. R., Cedar Rapids.
Sliter, C. N., West Mitchell.
Sloan, M. G. Dexter.
Smead, C. C., Newton.
Smith, E. R. Toledo.
Smith, C. H., Mason City.
Smith, S. J., Wellman.
Smith, H. C., Clarksville.
Smouse, D. W., Des Moines.
Sones, C. O., Panora.
Spilman, S. A., Ottumwa.
Stanton, T. P., Chariton.
Starr, J. W., Lacona.
Stanger, G. H., Boone.
Steinle, H. F., Burlington.
Stevens, F. T., Mt. Pleasant.
Stevenson, C. E., Emerson.
Stoner, C. E., Des Moines.
Stutsman, C., Burlington.
Sugg, J. F. H., Clinton.
Summers, N. P., Van Meter.
Swezey, A. J., Decorah.
Swett, P. W., Cedar Rapids.
Tanner, W. C., Stuart.
Taylor, J. F., Salix.
Taylor, T. G., Waterloo.
Tedron, J. B., Williams.
Terry, M. C., Brighton.
Thompson, B., Tama.
Thornburg, M. W., Redfield.
Thornton, J. H., Lansing.
Throckmorton, T. M., Chariton.
Torrey, B. N., Creston.
Townsend, George E., Gowrie.
Treynor, V. L., Council Bluffs.
Treat, J. A., Stuart.
Tuttle, Mary B., Burlington.
Vail, A. M., Rock Rapids.
Vance, F. E., Eddyville.
Van Metre, E. J., Tipton.
Vest, W. E., Montezuma.
Vincent, W. A. Belle Plaine.
Voldeng, M. N., Des Moines.
Waddey, E. J., Waterloo.
Wahrer, C. F., Ft. Madison.
Wallace, C. E., New Sharon.
Watson, Wm., Dubuque.
Weber, Lee, Davenport.
Van Werden, W., Des Moines.
Weston, N. T., Colfax.
Wetmore, Josephine M., Grinnell.
Whitley, F. E., Webster City.
Whitley, R. L., Osage.
Wick, D.M., Cedar Falls.
Wieland, F. W., Dubuque.
Wight, A. H., New Hampton.
Will, F. J., Eagle Grove.
Willett, H. C., Whitten.
Williams, R. R., Manning.
Williams, W. J., Adel.
Williams, J. C., What Cheer.
Wilson, H. P., Mediapolis.
Witte, M. E., Clarinda.
Wood, I. C., Logan.
Woodbridge, W., Central City.
Worley, J., Belle Plaine.
Wright, A. L., Carroll.
Wright, J. C., Clear Lake.
Wright, W. E., Knoxville.
Yocom, A. L., Chariton.
Young, H. B., Burlington.
Young, H. C., Bloomfield.

KANSAS.

Aikman, R. A. Ft. Scott.
Allen, Frank T., Neodesha.
Armstrong, E., Greenleaf.
Barker, W. E., Chanute.
Barnes, Ida C., Topeka.
Basham, W., Neal.
Brous, H. A., Manhattan.
Bower, W. C., Lebanon.
Boyd, G. A., Edgerton.
Coldren, E. V., Topeka.
Cole, G. E., Girard.
Collins, Melvin, Oxford.
Comer, J. J., Willis.
Comstock, H. C., Hutchinson.
Crawford, J. R., Salina.
Daily, F. M., Beloit.
Daugherty, P, Junction City.
Davis, J. T., Independence.
Deaver, H. J., Robinson.
Dewees, Wm. B., Salina.
Dillon, J., Eureka.
Dorsey, J. G., Wichita.
Emerson, George, Winfield.
Ennis, J. M., Cedar Vale.
Felty, H. B., Abilene.
Flack, A. C., Fredonia.
Fryer, J. L., National Military Home.
Fulton, A. L., Iola.
Gardiner, C., Emporia.
Garey, J. H., Wilsey.
Gifford, A., Lawrence.
Gill, H. Z., Pittsburg.
Goddard, C. C., Leavenworth.
Gray, G. M., Kansas City.
Greene, F. F., Olathe.
Green, D. E., Pleasanton.
Grisell, W. S., Ransom.
Groff, W. D., Nortonville.
Grove, Wm. T., Eureka.
Grubb, L. Y., Topeka.
Gundry, A. E., St. Mary's.
Hall, Sarah O., Ft. Scott.
Hall, W. C., Coffeyville.
Hall, F. C., Jr., Cuba.
Hamilton, E. E., Wichita.
Harvey, W. S., Salina.
Harvey, Z. T., Council Grove.
Hastings, H. E., Olathe.
Hawley, J. E., Burr Oak.
Hawthorne, E. W., Gypsum City.
Hayes, N., Seneca.
Hazlett, B. E., Abilene.
Hertzler, A. E., Halstead.
Hissem, H. Z., Ellsworth.
Hornor, L., Wichita.
Hoshaw, U. G., Chanute.
Jacobs, L. D., Emporia.
Jameson, T. H., Wellington.
Judd, C. E., Topeka.
Kaster, J. P., Topeka.
Ketchersid, J. N., Hope.
Lane, J. A., Leavenworth.
Langworthy, S. B., Leavenworth.
Leary, M. F., Gaylord.
Leslie, C. F., Clyde.
Lewis, J. P., Topeka.
Lewis, J. K., Argentine.
Love, J. E., Whiting.
Lutz, E. J., Kansas City.
Lyman, L. J., Manhattan.
McCarty, Thos. L., Dodge City.
McCarty, C. E., Dodge City.
McClellan, G. B., Weir.
McKenzie, J. A., Eldorado.
McNary, O. C., National Military Home.
Magee, R. S., Topeka.
Marner, G. P., Marion.
Miner, H. C., Topeka.
Minney, J. E., Topeka.
Mitchell, P. S., Atchison.
Moorhead, J. L., Neodesha.
Morse, F. D., Lawrence.
Morton, R. J., Green.
Morrison, E. E., Great Bend.
Munn, L. F., Topeka.
Munn, C. E., Topeka.
Newton, C. S., Winfield.
Neidman, W. F. de, Pittsburg.
Ochiltree, H. M., Haddam.
Phillips, E. D. F., Lawrence.
Pigman, S. C., Concordia.
Porter, John W., Midway.
Rees, W. H., Pleasanton.
Reynolds, L., Horton.
Roberts, R. A., Kansas City.
Sabine, A., Garden City.
Sawhill, W. F., Concordia.
Schenck, W. L., Topeka.
Seacat, G. M., Cherry Vale.
Shelley, J. F., Elmdale.
Shelley, A. A., Abilene.
Shelly, E. T., Atchison.
Smethers, W. H., Moline.
Smith, F. H., Goodland.
Smith, E., Lawrence.
Stevens, T. A., Caney.
Stewart, S. G., Topeka.
Stewart, J. P., Clay Center.
Stouffer, Christopher C., Emporia.
Strawn, J. N., Elk City.
Tenney, A. P., Kansas City.
Thrailkill, G. H., Galena.
Trueheart, P. P., Sterling.
Tresler, L. S., Fall River.
Tyler, DeWitt O., Clifton.
Van Eman; W. J., Leavenworth.
Venard, J. N., Ness City.
Wachter, M. M., Axtel.
Walthall, J. D., Paola.
Wever, J. L., Leavenworth.
Wilhort, John W., St. George.
Wilson, W. P., Westmoreland.
White, R. E., Norton.
Williston, S. W., Lawrence.
Winterbotham, W. H., Salina.
Wright, S. A., Bern.

KENTUCKY.

Adamson, H. E., Maysville.
Adams, J. F., Bagdad.
Aitkin, C. W., Flemingsburg.
Alcorn, E., Houstonville.
Alderson, M. E., Russellville.
Allen, Ben A., Louisville.
Allen, M. K., Louisville.
Anderson, T., Louisville.
Austin, C., Bagdad.
Bailey, Wm., Louisville.
Barnes, J. R., South Carrollton.
Barrow, David, Lexington.
Beckett, J. B., Powersville.
Blaine, A. D., Dry Ridge.
Blincoe, A. G., Bardstown.
Block, O. E., Louisville.
Blue, W. R., Louisville.
Bodine, J. M., Louisville.
Bogle, J. C., Danville.
Bohannon, J. G., Greenville.
Boyd, Frank, Paducah.
Brooks, J. G., Paducah.
Brown, H., Hustonville.
Brown, W. A., Parksville.
Bryan, F. F., Georgetown.
Bullington, Travis A., Louisville.
Bullitt, Jas. B., Louisville.
Butt, A. L., Russellville.
Cain, Achilles W., Somerset.
Carpenter, J. G., Stanford.
Cartledge, A. M., Louisville.
Courtwright, H. P., Bowling Green.
Cheatham, Wm., Louisville.
Chessy, E. A., Morgantown.
Coffman, W. H., Georgetown.
Coleman, B. L., Lexington.
Coleman, J. R., Paducah.
Conway, W. H., Sunset.
Cook, L. B., Stanford.
Cowen, L. C., Rabbit Hash.
Cowgill, Warwick M., Paducah.
Creel, M. P., Central City.
Dabney, S. G., Louisville.
Dalton, J. M., Harrodsburg.
David, E. L., Louisville.
Davis, George E., Lawrenceburg.
DeBeck, D., Covington.
Dixon, Arch, Henderson.
Driskill, A. J., Grand River.
Dunn, M. C., Zion.
Durrett, L. P., Prestonia.
Evans, Silas, Paris.
Fallis, R. G., Louisville.
Farmer, Charles, Louisville.
Farris, Alex A., Hickman.
Finley, F. W., Red Ash.
Fisher, S. K., Milton.
Fitch, J. W., Russell.
Fithian, F., Paris.
Freeman, J. A., Beard.
Frey, R. Wesley, Trenton.
Gilbert, R. B., Louisville.
Gilmer, J. P., Louisville.
Goslee, L., Lakeland.
Grant, H. H., Louisville.
Graham, C., Henderson.
Grassham, R. H., Salem.
Green, E. M., Danville.
Greenley T. B., Meadow Lawn.
Griffin P. H., Henderson.
Guthrie, W. A., Franklin.
Hampton, S. E., Milton.
Hancock, D. O., Henderson.
Hanna, W. M., Henderson.
Hayden, J. V., Salem.
Heavrin, J. P., Owensboro.
Hodge, J. A., Henderson.
Holloway, S. W., Louisville.
Hopson, Joseph, St. Matthews.
Insko, Mark, Bratton.
Ingram, Julia, Louisville.
Irwin, J. W., Louisville.
Jackson, W. Z., Burkley.
Johnson, J. E., Lebanon Junction.
Kearns, C., Covington.
Kelley, C. W., Louisville.
Kelly, E., Lebanon.
Keen, W. C., Burkeville.

Kelly, W. H., Covington.
La Rue, F. G., Hampton.
Lassing, H. C., Union.
Lee, J. R., Columbus.
Letcher, J. H., Henderson.
Lewis, John A., Georgetown.
Lucas, C. G., Louisville.
McCain, J. H., Curdsville.
McChord, R. C., Lebanon.
McCormack, J., Bowling Green.
McDowell, H., Cynthiana.
McKeel, P. W., Wingo.
McLean, H. L., Wilmore.
McMurtry, Lewis, S., Louisville.
Malloy, J. J., Covington.
Mann, Chas., Nicholasville.
Marvin, J. B., Louisville.
Matthews, Jos. M., Louisville.
Meany, W. B., Louisville.
Meek, J. M., Falmouth.
Meyer, J. M., Danville.
Miller, J. A. H., Princeton.
Morton, W. W., Catlettsburgh.
Morris, N. G., Fulton.
Morrison, A. M., Goshen.
Mosby, W. L., Bardwell.
Mosely, J. C., Henderson.
Moss, R. H., Niagara.
Moss, W. R., Clinton.
Mutters, John D., Rush.
Nelson, W. C., Salvisa.
Ouchterloney, J. A., Louisville.
Parrish, Benjamin F. Midway.
Payne, G. W., Bardwell.
Peck, J. M., Arlington.
Pelle, H. E., Louisville.
Peyton, J. F., Stanford.
Pickett, T. E., Maysville.
Pitman, H. S., East Bernstadt.
Plummer, H., Harodsburg.
Pope, Curran, Louisville.
Pound, T. P. D., Louisville.
Pratt, R. D., Shelbyville.
Price, A. D., Harrodsburg.
Price, J. L., Sherman.
Ramsey, R. T., London.
Ravitch, M. L., Lexington.
Ray, J. M., Louisville.
Reddick, Jas. T., Paducah.
Reddish, G. M., Somerset.
Reynolds, D. S., Louisville.
Reynolds, J. F., Mt. Sterling.
Richmond, W. W., Clinton.
Ritter, H. B., Louisville.
Robinson, I. M., Guthrie.
Roberts, H. H., Paris.
Roberts, Wm. O., Louisville.
Roberts, D. Y., Louisville.
Rodman, W. E., Hodgeville.
Salmon, J. M., Ashland.
Sargent, A., Hopkinsville.
Satterwhite, T. P., Louisville.
Scarborough, J. R., Spring Hill.
Shoemaker, T. J., Morganfield.
Sights, H. P., Hopkinsville.
Simons, A. A., Cloverport.
Skillman, H. M., Lexington.
Smith, A. W., Richmond.
Solomon, Leon L., Louisville.
Speidel, C. E., Louisville.
Stevens, E. A., Mayfield.
Stuckey, T. H., Louisville.
Stuckey, T. H. Jr., Louisville.
Stucky, J. A., Lexington.
Sullivan, R. R., Uniontown.
Taylor, J. F. La Grange.
Taylor, A. P., Lexington.
Trail, A. J., Bardwell.
Troutman, J. S., Paducah.
Tuley, Henry E., Louisville.
Ussery, W. C., Paris.
Vance, A. Morgan. Louisville.
Wade, J. H., Ashland.
Warner, G. M., Louisville.
Wathen, Wm. H., Louisville.
Wedding, S. J., Hartford.
Wells, J. E., Cynthiana.
Wesley, Cyrus, Ansel.
Wiley, E. M., Lexington.
Willis, S. W., Jasper.
Woodburn, Jas. T., Bremen.
Woody, Samuel E., Louisville.

LOUISIANA.

Archinaud, P. E., New Orleans.
Bloom, J. D., New Orleans.
Chaille, S. E., New Orleans.
Chauff, L. D., Lions.
Cusachs, P. L., New Orleans.
Czarnowski, D., New Orleans.
Dabney, T. S., New Orleans.
Delaup, S. P., New Orleans.
Dickson, W. L., Shreveporot.
Ducrocq, H. L., Lafurche Crossing.
Egan, J. C., Shreveport.
Formento, Felix, New Orleans.
Fox, G. R., Moreanville.
Frierdich, G. J., New Orleans.
Gazzo, J. B. C., Raceland.
Gessner, H. B., New Orleans.
Gray, R. A., Shreveport.
Holloway, W. A., Rosedale.
Harrell, R. F., Ruston.
Helmick, A. S., De Siard.
Henry, S. L., New Orleans.
Hunt, R., Shreveport.
Joachim, Otto, New Orleans.
Jones, A. W., Jones.
Kohnke, Q., New Orleans.
Kohlman, W., New Orleans.
Larne, F. A., New Orleans.
Laurans, J., New Orleans.
Lewis, `E. S., New Orleans.
McCutchon, P. B., New Orleans.
McKowen, E. C., Jackson.
McVea, Chas., Baton Rouge.
Mainegra, R. J., New Orleans.
Matas, R., New Orleans.
Monette, G. N., New Orleans.
Mouton, G. C., Rayne.
Newell, E. D., King.
Oechsner, J. F., New Orleans.
Parham, F. W., New Orleans.
Parker, Wm. E., New Orleans.
Parsons, H. J., Mansfield.
Pigott, J. F., Covington.
Provosty, L. M., New Roads.
Pugh, T. B., Napoleonville.
Reynand, L. F., New Orleans.
Salter, R. W., New Orleans.
Scheppegrell, W., New Orleans.
Schumpert, T. E., Shreveport.
Souchon, B., New Orleans.
Stewart, C. S., Amite City.
Sutherlin, W. K., Shreveport.
Tolson, G. R., Covington.
Weber, A., New Orleans.
White, John F., Fisher.

MAINE.

Barrett, F., Cumberland Hills.
Bassford, S. J., Biddeford.
Beede, J. W., Auburn.
Bradbury, B. F., Norway.
Bridges, Q. A., Guilford.
Brooks, S. D., Portland.
Coe, Thomas U., Bangor.
Cousins, W. L., Portland.
Crockett, E. A., Lewiston.
Crosby, N. H., Monson.
Davis, O. C. S., Augusta.
Dobson, L., Ashland.
Donovan, J. A., Lewiston.
Dyer, Florence M., Portland.
Ellwell, W. E., Togus.
Ferguson, F. B., Deer Isle.
Foster, C. W., Woodfords.
Fox, H., Bath.
Fuller, E. M., Bath.
Garcelon, A., Lewiston.
Gordon, Seth C., Portland.
Gordon, J. W., Ogunquit.
Gregory, G. A., Boothbay Harbor.
Hanson, H. F., Bangor.
Hennessey, D., Bangor.
Hersom, Jane L., Portland.
Hill, C. D., Bethel.
Hill, J. F., Waterville.
Holt, E. E., Portland.
Hunt, H., Greenville.
Hunter, Samuel B., Machias.
Maybury, Wm. J., Saco.
Nash, A. W., E Jefferson.
Norton, C. E., Lewiston.
Parsons, D. E., Oakland.
Peabels, A. M., Auburn.
Peaslee, C. A., Wiscasset.
Robinson, D. A., Bangor.
Robinson, F. J., Fairfield.
Sattler, Robert, Biddeford Pool.
Small, W. B., Lewiston.
Smith, O. P., Portland.
Spear, W. M., Rockland.
Sprague, O. A., Turner.
Taylor, J. Madison, Bar Harbor.
Thayer, A. S., Portland.
Thayer, F. C., Waterville.
Thombs, S. B., Portland.
Tuell, J. E., Augusta.
Walker, Jason, Minot.
Weeks, H. S., Portland.
Wedgwood, M. C., Lewiston.
Wedgwood, M. J., Lewiston.

MARYLAND.

Baltimore.

Aronsohn, A., Baltimore.
Ashby, T. A., Baltimore.
Bates, J. W. P., Baltimore.
Belt, S. J., Baltimore.
Bernstein, E. J., Baltimore.
Biedler, H. H., Baltimore.
Billingslea, M. B., Baltimore.
Blake, J. D., Baltimore.
Bloodgood, J. C., Baltimore.
Bolgiano, W., Baltimore.
Bombaugh, C. C., Baltimore.
Bossyns, A. J., Baltimore.
Bosley, J., Baltimore.
Branham, J. H., Baltimore.
Brush, E. N., Baltimore.
Brinton, Wilmer, Baltimore.
Caldwell, J. J., Baltimore.
Carroll, J. J., Baltimore.
Cassidy, H. F., Baltimore.
Chisholm, F. M., Baltimore.
Christian, J. H., Baltimore.
Cone, Claribel, Baltimore.
Cone, S., Baltimore.
Cooke, T., Baltimore.
Crouch, J. F., Baltimore.
Crutcheld, Eugene Lee, Baltimore.
Cushing, H. W., Baltimore.
Dashiell, N. S., Baltimore.
Dausch, P. G., Baltimore.
Donovan, C. O., Baltimore.
Dunott, D. Z., Baltimore.
Dwinellel, J. E., Baltimore.
Earle, S. Y., Jr., Baltimore.
Eilau, E. W., Baltimore.
Feddeman, W. H., Baltimore.
Finney, J. M. T., Baltimore.
Fiske, J. D., Baltimore.
Fleming, G. A., Baltimore.
Friedenwald, J., Baltimore.
Friedenwald, A., Baltimore.
Fridenwald, H., Baltimore.
Fulton, J. S., Baltimore.
Funck, J. W., Baltimore.
Futcher, T. B., Baltimore.
Gardner, W. S., Baltimore.
Gavin, F. D., Baltimore.
Gickner, E., Baltimore.
Gilchrist, T. C., Baltimore.
Giles, A. B., Baltimore.
Harlan, H., Baltimore.
Hartman, G. A., Baltimore.
Hartwig, C. W., Baltimore.
Harrison, A. C., Baltimore.
Hempel, J. F., Baltimore.
Herman, N., Baltimore.
Hill, C. G., Baltimore.
Hopkinson, B. M., Baltimore.
Howard, W. L., Baltimore.
Hundley, J. M., Baltimore.
Iglehart, J. D., Baltimore.
Jacobs H. B., Baltimore.
Jay, J. G., Baltimore.
Jones, C. H., Baltimore.
Kelly, Howard A., Baltimore.
King, J. T., Baltimore.
Knipp, H. E., Baltimore.
Laciar, A. J., Baltimore.
Latimer, T. S., Baltimore.
Leonard, B. F., Baltimore.
Lewis, W. M., Baltimore.
Linthigum, G. M., Baltimore.
Lord, J. W., Baltimore.
Lumpkin, T. M., Baltimore.
Mackenzie, John N., Baltimore.
McConachie, A. D., Baltimore.
McShane, J. F., Baltimore.
Martinet, J. F., Baltimore.
Martin, Frank, Baltimore.
Marshall, H. T., Baltimore.
Mills, W. A., Baltimore.
Morgan, W. P., Baltimore.
Moyer, F. G., Baltimore.
Neff, J., Baltimore.
Nolan, C. F., Baltimore.
Opie, T., Baltimore.
Osler, Wm., Baltimore.
Pole, A. C., Baltimore.
Reiche, P. H., Baltimore.
Reid, E. M., Baltimore.
Reik, Henry O., Baltimore.
Rennolds, H. T., Baltimore.
Reynolds, G. B., Baltimore.
Richardson, T. L., Baltimore.
Riley, Chas. H., Baltimore.
Rowe, M., Baltimore.
Rowland, J. M. H., Baltimore.
Sadtler, C. E., Baltimore.
Sanger, F. D., Baltimore.
Savage, M., Baltimore.
Savin, T. L., Baltimore.
Sellman, W. A. B., Baltimore.
Singewald, E. M., Baltimore.
Smith, A. W., Baltimore.
Smith, E. A., Baltimore.
Smith, W. P., Baltimore.
Smith, T., Baltimore.
Stewart, Jas., Baltimore.
Street, David, Baltimore.
Tanneyhill, G. Lane, Baltimore.
Teackle, St. George, Baltimore.
Thayer, W. S., Baltimore.
Tiffany, L. McL., Baltimore.
Tinker, M. B., Baltimore.
Todd, Wm. J., Baltimore.
Trimble, I. R., Baltimore.
Uhler, J. R., Baltimore.
VanDyke, A. D., Baltimore.
Welch, W. H., Baltimore.
Whitehead, A., Baltimore.
Wiegand, W. E., Baltimore.
Willing, J. E., Baltimore.
Wilson, H. M., Baltimore.
Winslow, R., Baltimore.
Winslow, J. R., Baltimore.
Woods, Hiram, Jr., Baltimore.
Worthington, T. C., Baltimore.
Young, H. H., Baltimore.

Anderson, E., Rockville.
Birinie, C., Taneytown.
Bordley, J., Centreville.
Brayshaw, T. H., Glenburnie.
Byrne, B. J., Ellicott City.
Clark, J. C., Sykesville.
Davis, S. S., Boonsboro.
Dickenson, G. E., Upper Fairmount.
Ellis, C. M., Elkton.
Fahrney, H. P., Frederick.
Fort, S. J., Ellicott City.
Griffith, L. A., Marlboro.
Gundry, A. T., Catonsville.
Gundry, R. F., Catonsville.
Henkel, C. B., Annapolis.
Heyde, E. W., Parkton.
Hines, W. F., Chestertown.
Humrichouse J. W., Hagerstown.
Jacobs, C. C., Frostburg.
Jarrett, H. S., Towson.
Jones, C. P., Snow Hill.
Macgill, C. G. W., Catonsville.
McComas, H. W., Oakland.
Marsh, W. H., Solomons.
Monmonier, J. C., Dickeyville.
Morris, John, Sykesville.
Norris, M. D., Eldersburg.
Portman, Adeline E., Chevy Chase.
Reichard, V. M., Fairplay.
Scofield, W. K., Annapolis.
Skilling, W. Q., Lonaconing.
Smith, F. B., Frederick.
Sprecher, D. V., Sykesville.
Stevens, J. A., Oxford.
Wade, J. Percy, Catonsville.
Wareham E A., Hagerstown.
Williams, Arthur, Elk Ridge.

MASSACHUSETTS.

Boston.

Abbott, Samuel W., Boston.
Arnold, H. D., Boston.
Ball, C. D. E., Boston.
Baxter, W. E., Boston.
Beach, H. H. A., Boston.
Boland, E. S., Boston.
Bowditch, H. H., Boston.
Bradford, E. H., Boston.
Briggs, E. C., Boston.
Broidrick, J. P., Boston.
Brown, H. A., Boston.
Bullard, W. N., Boston.
Bundy, F. E., Boston.
Burrell, H. L., Boston.
Bush, J. Foster, Boston.
Byers, D. W., Boston.
Cabot, R. C., Boston.
Chamberlain, M. L., Boston.
Chandler, H. B., Boston.
Chenery, E., Boston.
Conaut, W. M., Boston.
Cobb,(F. C., Boston.
Cobb, C. M., Boston.
Craig, D. H., Boston.
Cutler, E. G., Boston.
Davidson, K. M., Boston.
Denig, Blanche A., Boston.
Dodge, W. W., Boston.
Dorr, H. I., Boston.
Eames, G. F., Boston.
Elliott, J. P., Boston.
Engelmann, George J., Boston.
Folsom, C. F., Boston.
Garland, George M., Boston.
Gavin, M. F., Boston.
Gerstein, M., Boston.
Gifford, B. D., Boston.
Goldthwait, J. E., Boston.
Goodale, J. L., Boston.
Graham, D., Boston.
Grant, W. H., Booston.
Greenleaf, R. W., Boston.
Harvey, Edwin B., Boston.
Hebbard, E. C., Boston.
Hogner, P. G. R., Boston.
Hughes, Laura A. C., Boston.
Hyde, George S., Boston.
Jones, D. W., Boston.
Jelly, G. F., Boston.
Johnson, J. W., Boston.
Johnson, F. Boston.
Kellogg, [illegible] ton.
Kilburn. [illegible]
Kingsl [illegible]
Know' [illegible]
Lau [illegible]
[illegible]

Lincoln, D. F., Boston.
Lombard, J. P., Boston.
McCormack, R. J., Boston.
McQueeney, F. J., Boston.
Marcy, Henry O., Boston.
Marion, H. E., Boston.
Martin, F. C., Boston.
Miller, A. E., Boston.
Moran, J. B., Boston.
Morse, J. L., Boston.
Munro, J. C., Boston.
Nichols, A. H., Boston.
Osman, C. Frank, Boston.
Palmer, Ezra, Boston.
Parsons, F. S., Boston.
Phelps, J. S., Boston.
Putnam, J. J., Boston.
Reynolds, E., Booston.
Rice, F. W., Boston.
Richardson, M. W., Boston.
Richardson, M. H., Boston.
Rotch, T. M., Boston.
Ruddick, W. H., Boston.
Shaw, H. L., Boston.
Shattuck, Frederick C., Boston.
Standish, M., Boston.
Stevens, Chas. W., Boston.
Storer, M., Boston.
Temple, W. F., Boston.
Tenney, J. A., Boston.
Thompson, C. O., Boston.
Thompson, P. H., Boston .
Tilton, F. H., Boston.
Tracy, Edward A., Boston.
Wallace, F. H., Boston.
Warren, John, C., Boston.
Webster, G. A., Boston.
White, W. H., Boston.
Williams, J. L., Boston.
Williams, F. H., Boston.
Williams, C. H., Boston.
Williams, H., Boston.
Wylie, E. C., Boston.

Abbe, A. J., Fall River.
Adams, J. F. A., Pittsfield.
Adams, C. S., Woltaston.
Alden, C. H., Hyannisport.
Allen, C. J., Winchester.
Ames, R. P. M., Springfield.
Andrews, W. H., Springfield.
Andrews, R. R., Cambridge.
Baker, H. B., Dighton.
Banfield, F. L., Worcester.
Bartlett, G. P., Woburn.
Bartlett, O. L., Brocton.
Bass, Wm., Lowell.
Beattie, R. F., Swampscott.
Bennett, Alice, Wrentham.
Bennett, F. S., Boston Highlands.
Blake, C. A., West Brookfield.
Blodgett, A. G., Ware.
Bond, W. G., Revere.
Bowen, C. W., Westfield.
Bowers, W. P., Clinton.
Bragg, Francis A., Foxboro.
Brashear, B. B., Concord.
Bridgham, C. B., Cohassett.
Brown, W. G., Plymouth.
Bryant, L. L., Cambridgeport.
Buck, A. W., Fall River.
Burns, H. H., Athol.
Bushnell, E. H., Quincy Point.
Butler, W., Vineyard Haven.
Byrne, C. A., Hateld.
Calkins, Marshall, Springfield.
Chamberlin, T., Concord.
Channing, W., Brookline.
Clarke, Aug. P., Cambridgeport.
Cobb, Caroline M., Lynn.
Cobb, A. C., Southampton.
Connell, A. I., Fall River.
Cone, D. E., Fall River.
Cooke, S. P. F., Gloucester.
Copeland, H. F., Whitman.
Corey, F. E., Westboro.
Coughlin, J. W., Fall River.
Cowles, Edward, Waverly.
Cram, J. W., Colrain.
Cunningham, T. E., Cambridge.
Cutter, C. K., Somerville.
Cutler, C. N., Chelsea.
Davis, W., Worcester.
Dearing, T. Haven, Braintree.
Dearing, H. L., Braintree.
Doble, E. E., West Quincy.
Dolloff, A. S., Beverly.
Dorman, A. B., Winthrop.
Drew, C. A., State Farm.
Dunham, H. B., Rutland.
Eaton, Lillie, Winchester.
Eaton, W. W., Danvers.
Edes, Robt. T., Jamaica Plain.
Ellis, D. S., Worcester.
Fenwick, J. B., Chelsea.
Fraser, J. C., East Weymouth.
French, J. I., Winchester.
Frissell, S., Sprinigfield.
Fuller, G. E., Monson.
Gage, Homer, Worcester.
Galligan, E. F., Taunton.
Gallison, A. J., Franklin.
Garland, J. E., Gloucester.
Gerry, E. P., Suffolk.
Getchell, A. C., Worcester.
Gibbs, L. J., Chicopee Falls.
Giddings, T., Housatonic.
Gifford, J. H., Fall River.
Gilbert, J., Fall River.
Gordon, J. A., Quincy.
Gordon, S. N., Fall River.
Granger, F. C., Randolph.
Hall, H. P., Leominster.
Hamlin C. F., Medway.
Hartwell, B. H., Ayer.
Harriman, J. L., Hudson.
Harrington, T. F., Lowell.
Harris, A. E., Lynn.
Hayden, Catherine P., Woburn.
Hayes, F. L., Brookline.
Hayes, I. B., Florence.
Hildreth, J. L., Newton, Upper Falls.
Hixon, E. C., Cambridge.
Holland, J. W., Westfield.
Hooper, F. H., New Bedford.
Hough, G. de N., New Bedford.
Hutchison, Claribel M., Waltham.
Hurd, G. P., Reading.
Hyde, F. T., Weston.
Irish, J. C., Lowell.
Irwin, V. J., Springfield.
Jackson, J. H., Fall River.
Jefferson, H. P., Lowell.
Johnson, W. A., Lowell.
Jones, G. W., Cambridgeport.
Keller, E. C., Jamaica Plain.
Kelly, M., Fall River.
Knight, M. W., Milford.
Knowlton, C. D., Roxbury.
Lawler, W. P., Lowell.
Learned, J. B., Northampton.
Learned, W. T., Fall River.
Leach, Wm., Vineyard Haven.
Leonard, M. H., New Bedford.
Leslie, H. G., Amesbury.
Lewis, A. C., Fall River.
Locke, H. M., Sturbridge.
Logan, F. P. T., Gloucester.
MacCabe, A., Gloucester.
McGauren, Geo. D., Lawrence.
McGrath, B. F., Beverly.
McIntosh, H., Medway.
Mackie, L. V. G., Attleboro.
Mackie, G., Attleboro.
Mahoney, S. A., Holyoke.
Makechnie, H. P., West Somerville.
Mansfield, H. T., Needham.
Manchester, D. B., Beverly.
Marr, M. L., Dorchester.
Martin, G. A., Franklin.
Mellen, M. E., Chicopee.
Mercer, W. M., Pittsfield.
Merrill, W. H., Lawrence.
Merrill, Q. H., Leominster.
Messer, C. C., Turners Falls
Miller, Vesta D., Needham.
Minot, J. J., Mattapan.
Miner, W. W., Ware.
Morrill, C. P., North Andover Depot.
Moses, T. F., Waltham.
Murphy, E. V., Fall River.
Newton, Leroy A., Greenfield.
Norris, A. L., Cambridgeport.
Nottage, H. P., Goshen.
Noyes, N. K., Duxbury.
Osgood, G., Rockland.
Ott, G. J., Clinton.
Overlock, M. G., Worcester.
Paddock, F. K., Pittsfield.
Parker, M. G., Lowell.
Parker, W. T., Westboro.
Pearson, M. W., Ware.
Peckham, A. C., Fall River.
Penny, H. T., Cliftondale.
Perry, H. B., Amherst.
Peterson, C. A. B., New Bedford.
Pierce, F. B., Haverhill.
Pierce, W. H., Greenfield.
Pierce, A. H., Leominster.
Pinkham, G. E., Lowell.
Plummer, E. M., Charleston.
Pope, F. F., Ashby.
Prefontaine, L. A., Springfield.
Presbery, Silas D., Taunton.
Proctor, P. C., Gloucester.
Putnam, J. M., Chelsea.
Qua, L. R., Pepperell.
Quint, N. P., West Medway.
Ransom, N. M., Somerville.
Richards, G. L., Fall River.
Ring, A. M., Arlington Heights.
Rives, W. C., Readville.
Rowley, W., Gloucester.
Ryder, G., Malden.
Sargent, A. N., Salem.
Sawyer, E. A., Gardner.
Scofield, W. W., Dalton.
Scribner, E. V., Worcester.
Shackford, C. H., Chelsea.
Shattuck, A. M., Worcester.
Sheldon, C. C., Lynn.
Silva, F. P., Charlestown.
Smith, W. A., Springfield.
Smith, F. G., Somerville.
Simpson, C. E., Lowell.
Somers, J. E., Cambridge.
Soules, S. G., Hudson.
Stanley, J. M., Northboro.
Stevens, E. H., North Cambridge.
Stetson, H. G., Greenfield.
Stetson, F. E., New Bedford.
Stone, F. E., Lynn.
Swift, L. C., Pittsfield.
Swift, W. N., New Bedford.
Synan, W. E., Fall River.
Symonds, B. R., Salem.
Thayer, E., Roxbury.
Thompson, R. J., Fall River.
Thorn, E. C., Jr., Deerfield.
Tobey, G. L., Lancaster.
Trueworthy, E. W., Lowell.
Tucker, S. C., Peabody.
Tucker, W. L., Hinsdale.
Tuttle, A. H., Cambridge.
Vaughan, J. H., Everett.
Warner, C. T., Marlboro.
Weiser, W. R., Springfield.
Wheatley, F. G., North Abington.
Wheeler, C. A., Leominster.
White, H. C., Somerville.
Whitney, E. M., New Bedford.
Wilson, R. Browning, Holbrook.
Withington, A. B., Pittsfield.
Wolcott, H. P., Cambridge.
Wood, N. P., Northfield.
Wood, A., Wooster.
Woods, J. H., Boulevard.
Woodward, S. B., Worcester.

MICHIGAN.

Detroit.

Amberg, E. Detroit.
Anderson, Willis S., Detroit.
Anderson, C. G., Detroit.
Anderson, Christine M., Detroit.
Beisman, J., Detroit.
Bell, Samuel, Detroit.
Bennett, John F., Detroit.
Book, J. B., Detroit.
Brady, M., Detroit.
Brodie, B. P., Detroit.
Brown, N. F., Detroit.
Campbell, D. S., Detroit.
Campbell, Don M., Detroit.
Campbell, P. M., Detroit.
Carrier, A. E., Detroit.
Carstens, J. Henry, Detroit.
Chittick, W. R., Detroit.
Cleland, Henry A., Detroit.
Collins, A. N., Detroit.
Connor, L., Detroit.
Cook, Emma D., Detroit.
Cox, G. W., Detrtoit.
Douglas, Chas., Detroit.
Duffield, Geo., Detroit.
Emerson, J. E., Detroit.
Frothingham, G. E., Detroit.
Gibbs, H., Detroit.
Gillman, R. W., Detroit.
Hartz, H. J., Detroit.
Hitchcock, Chas. W., Detroit.
Houghton, E. M., Detroit.
Hubel, J. T., Detroit.
Huson, Florence, Detroit.
Inglis, D., Detroit.
Irwin, J. L., Detroit.
Ives, Augustus W., Detroit.
Jenks, E. W., Detroit.
Jennings, Chas. G., Detroit.
Kiefer, Hermann, Detroit.
LaFerte, D., Detroit.
Leonard, C. H., Detroit.
Longyear, Howard W., Detroit.
Longhead, R. P., Detroit.
Lyons, A. B., Detroit.
McEachren, H. A., Detroit.
McEwen, P. C., Detroit.
McGraw, T. A., Detroit.
McLean, Angus, Detroit.
Maire, Lewis E., Detroit.
Maclean, D., Detroit.
Mann, F. W., Detroit.
Manton, W. P., Detroit.
Martin, W. C., Detroit.
Metcalf, W. F., Detroit.
Miner, S. G., Detroit.
Moran, Geo. W., Detroit.
Mulheron, J. J., Detroit.
O'Donovan, D., Detroit.
Odell, R. W., Detroit.
Parker, Delos L., Detroit.
Parker, W. R., Detroit.
Polozker, I. L., Detroit.
Poole, W. H., Detroit.
Renaud, Geo. L., Detroit.
Robbins, F. W., Detroit.
Scherer, O., Detroit.
Schorr, E., Detroit.
Shurly, E. L., Detroit.
Smith, E. B., Detroit.
Smith, Eugene, Detroit.
Stevens, W. C., Detroit.
Summers, F. S., Detroit.
Tappey, E. T., Detroit.
Thüner, A., Detroit.
Tibbals, F. B., Detroit.
Walker, H. O., Detroit.
Walker, Thaddeus, Detroit.
Walker, F. B., Detroit.
Warren, W., Detroit.
Wilson, W. J., Detroit.
Winter, James, Detroit.
Wyman, Hal C., Detroit.
Yarbrough, C. C., Detroit.
Yates, H. W., Detroit.

Albright, Jos., Grand Rapids.
Alvord, A. W., Battle Creek.
Andrews, G. E., Bay City.
Bachman, N. E., Staanton.
Baker, H. B., Lansing..
Baker, Chas. H., Bay City.
Barber, O. P., Saginaw.
Beech, G. D., Champion.
Bell, J., Benton Harabor..
Berry, H. G., Romeo.
Berry, W. F., Mt. Clemens.
Best, L. E., Grand Rapids.
Bigham, E., Grand Rapids.
Bliss, Lyman W., Saginaw.
Bogan, J. H., Mackinaw Island.
Boise, Eugene, Grand Rapids.
Bokhof, D. H., Lansing.
Booth, Chas., Escanaba.
Braden, G. M., Scotts.
Bradley, Jas. B., Eaton Rapids.
Brady, John, Grand Rapids.
Brainerd, I. M., Alma.
Breakey, W. F., Ann Arbor.
Breakey, Jas. F., Ann Arbor.
Bulson, A. E., Jackson.
Burgess, J. M., Northville.
Burr, C. B., Flint.
Burrell, R. H., Manistique.
Burley, D. H., Almont.
Burtless, W. B., St. Clair.
Burwell, A. G., Byron Centre.
Butler, G. F., Alma.
Byington, J. F., Battle Creek.
Calkins, H. T., Petoskey.
Campbell, Oliver B., Ovid.
Campbell, Gertrude D., Mason.
Carnes, Geo. D., Southt Haven.
Carpenter, W. T., Iron Mountain.
Carrow, F., Ann Arbor.
Case, H. R., Grand Blanc.
Catlin, S. Jr., Tecumseh.
Chamberlain, G. L., Newberry.
Chamberlain, G. V., Flint.
Chapin, A. B., Mt. Clemens.
Chapman, Harvey S., Pontiac.
Chapman, E. A., Walled Lake.
Chapman, W. E., Cheboygan.
Chadwick, H. J., Grand Rapids.
Christian, E. A., Pontiac.
Clawson, Emma L., Battle Creek.
Conn, C. E., Battle Creek.
Connery, W. S., East Saginaw.
Cope, C. S., Ionia.
Corcoran, J. Sylvester, Ulby.
Chrouch, Geo. W., Shaftsburg.
Crane, Augustus W., Kalamazoo.
Cronin, M. C., Bangor.
Cruse, I. E., Quinnesee.
Dagg, T. L., West Bay City.
Dalese, O. L., Grand Rapids.
Darling, Cyrenus G., Ann Arbor.
Davis, E. W., Saginaw.
Dellenbaugh, C. C., Portland.
De Spelder, Elias, Drenthe.
De Vore, J. A., Grand Rapids.
Dewey, C. R., Keeley.
Dickinson, W. L., Saginaw.
Dock, George, Ann Arbor.
Dodge, Wm. T., Big Rapids.
Dougan, W. T., Niles.
Drake, A. P., Hastings.
Duffield, S. D., Dearborn.
Dunlap, Harley M., Battle Creek.
Earle, G. W., Hermansville.
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Ellis, E. J. C., Benzonia.
Elwood, C. R., Menominee.
Felch, Theo. A., Ishpeming.
Fischer, A. F., South Lake Linden.
Florentine, F. B., Saginaw.
Florentine, E. A., Saginaw.
Forsyth, R. S., Gladstone.
French, S. S., Battle Creek.
Fuller, Wm., Grand Rapids.
Fuller, D. E., Hastings.
Fulton, D., Battle Creek.
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Gamber, W. P., Stanton.
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Green, Mary E., Charlotte.
Green, G. W., Battle Creek.
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Harison, B. D., Sault Ste. Marie.
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Hauxhurst, J. W., West Bay City.
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Howell, G., Tecumseh.
Huber, C. G., Ann Arbor.
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Inches, J. W., St. Clair.
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Jewet, W. E., Adrian.
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Johnston, C. H., Grand Rapids.
Johnston, R., Milford.
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Joy, L. S., Marshall.
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Kellogg, J. H., Battle Creek.
King, J. A., Manistee.
Kinne, H. J., Frankfort.
Kirkpatrick, Clifford, Adrian.
Knowles, L. D., Three Rivers.
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Lamb, D. H., Owosso.
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Loope, G. L., Bessemer.
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Lowry, G. W., Hastings.
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McKain, C. H., Vicksburg.
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Moore, M. T., Richmond.
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Oosting, J., Muskegon.
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Osborne, H. B., Kalamazoo.
Oven, Arthur G., Petoskey.
Palmer, E. A., Hartford.
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Parmeter, R. L., Albion.
Perkins, J., Owosso.
Phelps, O. S., Battle Creek.
Phippen, L. S. C., Owosso.
Pierce, F. S., Beaverton.
Pierce, Della P., Kalamazoo.
Platt, J. S., Port Huron.
Plessner, Louis, Bay City.
Pollard, J. W., St. Johns.
Pomeroy, E. H., Calumet.
Pratt, Foster, Kalamazoo.
Price, A., Almont.
Rand, H. T., Battle Creek.
Randall, I. E., West Bay City.
Ranney, G. E., Lansing.
Reed, W. F., Cheboygan.
Reed, J. H., Battle Creek.
Rhodes, Leslie G., South Haven.
Richmond, P. B., Mt. Pleasant.
Riecke, J. W., Grand Rapids.
Robnson, Wm. J., Lapeer.
Robinson, F. W., Sturgis.
Rodi, C. H., Calumet.
Rogers, Arthur S., Saginaw.
Roller, L. A., Grand Rapids.
Root, P. S., Monroe.
Rossiter, F. M., Battle Creek.
Ruggles, F. E., Bay City.
Rutherford, F. A., Grand Rapids.
Ryno, W. Benton Harbor.
Sabin, M., Centreville.
Sample, C. H., East Saginaw.
Sawyer, W. H., Hillsdale.
Scallon, J. E., Hancock.
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Schurtz, P., Grand Rapids.
Schemer, E., Fowler.
Sheldon, H. W., Negaunee.
Shillito, Fred, Marcellus.
Shotwell, A. N., Mt. Clemens.
Small, S. I., Saginaw.
Smith, Mary C., Grand Rapids.
Smith, H. S., Negaunee.
Smith, S. K., Port Huron.
Smith, R. R., Grand Rapids.
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Snyder, A. F., Escanaba.
Southworth, C. T., Monroe.
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Spencer, R. H., Grand Rapids.
Starr, L. W., Battle Creek.
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Stevens, S., Dowagiac.
Stewart, P., Hadley.
Stockwell, C. B., Port Huron.
Stone, F., Bay City.
Stone, G. W., Metamora.
Strangways, W. F., Flint.
Suylandt, C. G., Gladwin.
Swaney, H. N., Eagle.
Swift, E. P., Norway.
Taylor, James E., Ovid.
Thompson, F. C., East Tawas.
Towsley, F. A., Midland.
Turner, T. J., Coldwater.
Upjohn, W. E., Kalamazoo.
Van der Laan, J., Muskegon.
Vandeventer, Jos., Ishpeming.
Vaughan, V. C., Ann Arbor.
Van Horn, A. L., Otsego.
Vaughan, O. M., Covert.
Wade, DeWitt C., Holly.
Walker, Zelpha G., Benton Harbor.
Wallace, W. B., Manton.
Watson, Chas. S., Breckinridge.
Welsh, D. E., Grand Rapids.
Wessinger, J. A., Ann Arbor.
White, John E., Kalamazoo.
Whitmarsh, T. R., Copper Falls Mine.
Wilbur, C. T., Kalamazoo.
Wilbur, C. L., Lansing.
Wiley, H. H., Utica.
Williams, H., East Saginaw.
Williamson, T. M., Saginaw.
Willson, James C., Flint.
Wilson, W. D., Mt. Clemens.
Willson, Mortimer, Port Huron.
Work, Samuel A., Vandalia.
Wright, W. C., Unionville.
Yates, James, Roseville.
Yates, O. E., Holland.
Young, W. H., Nashville.

MINNESOTA.

Abbott, A. W., Minneapolis.
Adair, J. H., Owatonna.
Adams, W. T., Elgin.
Adams, Arthur S., Rochester.
Aldrich, A. G., Anoka.
Aldrich, Flora L., Anoka.
Allen, H. B., Cloquet.
Anderson, J. D., Minneapolis.
Andrews, J. W., Mankato.
Appleby, T. E. W., St. Paul.
Archibald, O. W., St. Paul.
Armitage, T. L., Princeton.
Ancker, Arthur A., St. Paul.
Bacon, L. C., St. Paul.
Barber, J. P., Minneapolis.
Bass, G. W., Minneapolis.
Bates, S., Virginia.
Beard, R. O., Minneapolis.
Beebe, W. L., St. Cloud.
Beise, C. J., Fergus Falls.
Bell, J. W., Minneapolis.
Benjamin, A. E., Minneapolis.
Blackmer, F. A., Albert Lea.
Boeckmann, E., St. Paul.
Boehm, J. C., St. Cloud.
Bracken, H. M., Minneapolis.
Bradley, C. H., Minneapolis.
Brandenberg, F. D., Mankato.
Brooks, D. F., St. Paul.
Brown, E. J., Minneapolis.
Burns, F. W., Stewartville.
Burnside, I. T., West Duluth.
Campbell, G. E., Wykoff.
Carter, J. A., Ellsworth.
Catlin, T. J., Delano.
Chamberlin, Wm. A., Waseca.
Chamberlin, J. W., St. Paul.
Chapman, O. S., Minneapolis.
Chilton, E. Y., Howard Lake.
Chilgren, G. A., Sauk Rapids.
Clay, E. M., Oronoco.
Claydon, Leonard E., Mazeppa.
Cobb, W. F., Lyle.
Cockburn, J. C., Minneapolis.
Colins, H., Duluth.
Cooley, C. O., Madelia.
Conley, A. T., Cannon Falls.
Courtenay, Walter, Brainerd.
Crewe, J. E., Zumbrota.
Cressy, F. J., Granite Falls.
Crume, G. P., Minneapolis.
Daniels, Asa W., St. Peter.
Darling, W. H., St. Peter.
Davis, H., St. Paul.
Donaldson, C. A., Minneapolis.
DuBois, J. A., Sauk Center.
Dugan, R. C., Eyota.
Dunn, J. H., Minneapolis.
Dunning, A. W., St. Paul.
Dunsmoor, F. A., Minneapolis.
Earl, R. O., St. Paul.
Eitel, G. G., Minneapolis.
Faucett, C. E., Stewartville.
Foote, Lucius F., Minneapolis.
Fulton, J. F., St. Paul.
Fullerton, W. S., Minnesota Lake.
Gammell, H. N., Madison.
Gates, Jos. A., Kenyon.
Giere, E. O., Madison.
Golden, A. J., Minneapolis.
Gould, J. B., Minneapolis.
Graham, R., Duluth.
Graham, D., West Duluth.
Graves, Carlton, Aitkin.
Greeley, L. Q., Duluth.
Greene, C. L., St. Paul.
Hall, W. A., Minneapolis.
Hand, W. R., Elbow Lake.
Harrington, C. D., Minneapolis.
Harwood, W. E., Eveleth.
Hatch, T. L., Owatonna.
Head, G. D., Minneapolis.
Hegge, Olaf H., Austin.
Hendrickson, H. W., Montevideo.
Hewitt, C. N., Red Wing.
Hill, R. J., Minneapolis.
Hill, C., Pine Island.
Hoftoe, O. T., New London.
Hunter, C. H., Minneapolis.
Jackson, G. E., Chatfield.
Jacobs, A. C., Elmore.
Johnson, T. H., St. Paul.
Johnson, H. P., Fairmount.
Jones, Talbot, St. Paul.
Jones, D. N., Gaylord.
Jones, W. A., Minneapolis.
Kelsey, C. A., Minneapolis.
Kelly, W. D., St. Paul.
Keyes, B. D., Winona.
Kimball, H. H., Minneapolis.
Laliberte, T. L., Minneapolils.
Lane, N. S., Winona.
Lankester, H., St. Paul.
Laton, W. S., Minneapolis.
Lewis, Jas. B., St. James.
Lewis, E. J., Sauk Center.
Little, J. W., Minneapolis.
Lucas, H. E., Wabasso.
Lundholm, E. M., St. Paul.
Lynch, Robert F., Monticello.
McAuliffe, J., Duluth.
McDavitt, T., St. Paul.
McEwan, S. W., Alexandria.
McGaughey, J. B., Winona.
McLaren, A., St. Paul.
McMichael, O. H., Vernon Center
Magee, W. H., Duluth.
Mayo, W. J., Rochester.
Maercklein, O. C., Adams.
Merritt, G. F., St. Peter.
Millspaugh, J. G., Little Falls.
Moore, J. E., Minneapolis.
Moore, C. W., Eveleth.
Morley, G. A., Crookston.
Morton, Howard M., Minneapolis.
Murphy, G., Garden City.
Nelson, H. S., Minneapolis.
Norred, C. H., Minneapolis.
Odendahl, F. H., St. Paul.
Ohage, J., St. Paul.
Patton, F. J., Duluth.
Pease, G. R., Redwood Falls.
Pine, O. S., Minnehaha.
Pineo, W. B., Minneapolis.
Porteous, W. N., Minneapolis.
Quinn, J. A., St. Paul.
Ransom, S. W., Dodge Center.
Reamer, E. F., Minneapolis.
Reynolds, M. H., St. Anthony Park.
Riggs, C. E., St. Paul.
Ritchie, Parks, St. Paul.
Roberts, C. B., Minneapolis.
Robbins, C. P., Winona.
Rochford, W. E., Minneapolis.
Rogers, A. C. Faribault.
Rogers J. T., St. Paul.
Rosser, J. C., Crookston.
Rothenburg, J. C., Springfield.
Rowe, W. H., St. James.
Schadle, J. E., St. Paul.
Schmauss, L. F., Mankato.
Schwyzer, A., St. Paul.
Scott, J. W., St. Charles.
Senkler, A. E., St. Paul.
Sheppard, P. E., Hutchinson.
Shipman, C. G., Ely.
Shrader, J. S., Delano.
Slagle, C. G., Minneapolis.
Smart, G. J., Blue Earth City.
Smith, W. S., St. Clair.
Sneve, Haldor, St. Paul.
Sohlberg, O., St. Paul.
Staples, Franklkin, Winona.
Stewart, J. C., Minneapolis.
Stewart, A. B., Owatonna.
Stephenson, W. J., Walker.
Stone, A. J., St. Paul.
Strickley, O. C., New Ulm.
Strout, E. S., Minneapolis.
Sweeney, A., St. Paul.
Sweetser, H. B., Minneapolis.
Taylor, H. L., St. Paul.
Tefft, N. S., Plain View.
Tessler, M., St. Paul.
Tictin, A. J., Maynard.
Titcomb, J., Duluth.
Todd, F. C., Minneapolis.
Tomlinson, H. A., St. Peter.
Triplett, N. M., Dawson.
Tufty, J. M. O., Duluth.
Tweedy, G. J., Winona.
Van Slyke, F. W., St. Paul.
Vanderherck, M. P., Minneapolis.
Voight, Wm. C., Stillwater.
Walsh, E. F., St. Paul.
Walrath, Belle M., St. Paul.
Walker, A. E., Duluth.
Walling, P. A., Park Rapids.
Warner, C. F., Mankato.
Wedge, A. C., Albert Lea.
Welcome, T. W. B. Sr., Sleepy Eye.
Westbrook, F. F., Minneapolis.
Wheaton, C. A., St. Paul.
Whittemore, N. K., Elk River.
Witherstine, H. H., Rochester.

MISSOURI.

Kansas City.

Beattie, T. J., Kansas City.
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Campbells, W. L., Kansas City.
Cathcart, C. P., Kansas City.
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Coffin, G. O., Kansas City.
Coleman, H. B., Kansas City.
Cordier, A. H., Kansas City.
Crow, A. M., Kansas City.
Crowell, H. C., Kansas City.
Drake, Nelson A., Kansas City.
Egelston, J. C., Kansas City.
Frick, Wm., Kansas City.
Griffith, J. D., Kansas City.
Hall, C. Lester, Kansas City.
Halley, George, Kansas City.
Harrelson, N. O., Kansas City.
Horigan, J. A., Kansas City.
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Jackson, J. M., Kansas City.
James, S. C., Kansas City.
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King, Willis P., Kansas City.
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Lewis, E. R., Kansas City.
Lewis, Nannie P., Kansas City.
Logan, J. E., Kansas City.
Mathis, C. E., Kansas City.
Mott, J. S., Kansas City.
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Pettijohn, N. J., Kansas City.
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Ridge, I. M., Kansas City.
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Robinson, J. L., Kansas City.
Rogers, J. C., Kansas City.
Rogers, D. F., Kansas City.
Schauffler, E. W., Kansas City.
Schultz, M. H., Kansas City.
Sexton, W. P., Kansas City.
Short, J. [illegible]
Sin [illegible] City.
Sloan [illegible]

Thompson, J. H., Kansas City.
Thompson, W., Kansas City.
Tiffany, F. B., Kansas City.
Van Eman, J. H., Kansas City.
Wainright, C. F., Kansas City.
Wall, A. H., Kansas City.
Ward, M. B., Kansas City.
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Wedding, E. V., Kansas City.
Wilson, A. M., Kansas City.
Wilson, Dora G., Kansas City.

St. Louis.

Amerland, J. H., St. Louis.
Ball, Otho F., St. *Louis.*
Ball, J. M., St. Louis.
Barck, Carl, St. Louis.
Bock, A. F., St. Louis.
Bogie, M. A., St. Louis.
Borck, E., St. Louis.
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Brewer, L., St. Louis.
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Browne, Geo. W., St. Louis.
Chaddock, C. G., St. Louis.
Chancellor, Eust, St. Louis.
Crandall, G. C., St. Louis.
Crossen, H. S., St. Louis.
Dalton, H. C., St. Louis.
Delany, J. O. F., St. Louis.
Dickerson, W. L., St. Louis.
Dorsett, W. B., St. Louis.
Finley, R. H., St. *Louis.*
Fisch, Carl, St. Louis.
Fischel, W. E., St. Louis.
French, P., St. Louis.
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Glasgow, F. A., St. Louis.
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Greer, E. O., St. Louis.
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Henderson, F. L., St. Louis.
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Hopkins M. J., St. Louis.
Hughes, C. H., St. Louis.
Hypes, B. M., St. Louis.
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Jennings, J. E., St. *Louis.*
Keir, Wm. F., St. Louis.
Kieffer, A. R., St. Louis.
Kolbenheyer, F., St. Louis.
Kuhn, D., St. Louis.
Laidley, L. H., St. Louis.
Lemoine, E. S., St. Louis.
Lanphear, E., St. Louis.
Lemen, J. R., St. *Louis.*
Lee, Edward Wallace, St. Louis.
Loeb, H. W., 3536 Olive st., St. Louis.
Love, I. N., St. Louis.
McCandless, W. A., St. Louis.
McClure, J., St. Louis.
McCullers, E. H., St. Louis.
McLean, Mary H., St. *Louis.*
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O'Reilly, Robert J., St. Louis.
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Pollak, S., St. Louis.
Pollman, L. P., St. Louis.
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Ravold, Amand, St. Louis.
Rice, D. F., St. Louis.
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Sander, Enno, St. Louis.
Saunders, E. W., St. Louis.
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Shields, W. B., St. Louis.
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Smith, J. W., St. Louis.
Spiegelhalter, J., St. Louis.
Steer, Justin, St. Louis.
Steele, A. J., St. Louis.
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Suggett, O. L., St. Louis.
Summa, H., St. Louis.
Sutter, O., St. Louis.
Taussig, A. E., St. Louis.
Tuholske, H., St. Louis.
Valle, J. F., St. Louis.
Vaughan, J. W., St. Louis.
Walbridge, L. P., St. Louis.
Wesseler, T. W., St. Louis.
Whelpley, H. M., St. Louis.
Wilson, R. E., St. Louis.

Alford, R. L., Vandalia.
Allee, W. S., *Olean.*
Allee, G. D., Lamar.
Allen, J. M., Liberty.
Arnold, P., Wellsville.
Avery, D., Lebanon.
Baskett, J. N., Hannibal.
Bell, W. T., Stoutsville.
Bennett, G. W., Blue Springs.
Bottom, M., Breckenridge.
Boulware, T. C., Butler.
Brainard, B. F., Martin City.
Bradsher, A. J., Clifton Hill.
Bronson, I. T., Sedalia.
Broslus, W. L., Gallatin.
Brown, Tinsley, Hamilton.
Brown, S. M., *Monroe City.*
Brown, R. A., Stockton.
Brown, A. C., Moselle.
Brummall, J. D., Salisbury.
Bryant, J. Jr., Independence.
Buren, C. R., Modena.
Bynum, John C., Stewartsville.
Cale, G. W., Springfield.
Campbell, E. T., Willow Springs.
Campbell, J. F., Callaoo.
Carpenter, S. F., St. Joseph.
Cave, B. S., Mexico.
Chandler, H. S., Glen Allen.
Chapman, A. W., Charleston.
Coffee, J. Turner, Steelville.
Corley, H. N., St. Paul.
Damour, F., Bolckow.
DeVilbiss, Frank, Spring Garden.
Dice, H. F., Joplin.
Douglas, W. H., Rush Hill.
Doyle, T. H., St. *Joseph.*
Dukes, E. C., *Lookout.*
Dyer, J. H., St. Peters.
Elam, W. T., St. Joseph.
Ellis, T. B., *Bethany.*
Enloe, John S, Sedalia.
Evans, W. H., *Sedalia.*
Ewing, F. C., Webster Grove.
Fassett, C. W., St. Joseph.
Findley, P. A., Ozark.
Foreman, J. M., Jonesburg.
Freeman, A. B., Joplin.
Fulherson, P. S., Lexington.
Fulton, F. H., Holt.
Gant, J. O. K., Plattsburg.
Gehrung, E. C., St. Louis.
Geiger, J., St. Joseph.
Goins, G. W., Breckinridge.
Goodrich, C. F., New Haven.
Gore, David C., Marshall.
Graham, A. W., Warrenton.
Griffin, J. M., Millville.
Haire, R. D., Clinton.
Haley, R., Brookfield.
Hall, L. T., Potosi.
Hall, Jos. R., Marshall.
Harrison, William, Marshall.
Hawkins, A. S., Monett.
Heaton, E. E., Coatsville.
Heddens, J. W., St. Joseph.
Henderson, R. T., *Jackson.*
Highsmith, G. R., Carrollton.
Holman, R. S., Booneville.
Isbell, J., Washington.
Jackson, T. B., Altamount.
Jermane, P. L., Grandin.
Johnson, H. C., Meadville.
Jermane, P. L., Grandin.
Jones, L. J., Linden.
Kelso, R. S., Joplin.
Kemp, W. P., Hale.
Latham, H. W., Latham.
Leeper, C. C., Braymer.
Leonard, P. I., St. Joseph.
Lockwood, W. D., St. Joseph.
McCown, T. B., Windsor.
McDonald, H. A., Pisgah.
McNay, A. L., Gray Summit.
Magee, C. H., Unionville.
Marsh, J. T., *Liberty.*
Matthews, L. I., Joplin.
Melvin, J. M., Cole Camp.
Metcalf, W. A., Steelville.
Michie, T. A., Cooter.
Miller, Geo. W., *Joplin.*
Miller, A. B., Macon.
Miller, U. G., Union.
Mitchell, D. L., Cassville.
Mitchell, C. A., Blythedale.
Mitchell, W. F., Lancaster.
Norton, J. J., Monroe City.
Nowlin, D., Montgomery City.
Oven, T. P., Brookfield.
Overstreet, W. C., Sedalia.
Parrish, J. E., Memphis.
Pickel, J. W., Crystal City.
Piper, J. D., Joplin.
Poppenhuser, H. A. C., Union.
Postlewait, J. A., Tarkio.
Powell, I. W., Holcomb.
Redman, Spencer, Platte City.
Rosenthal, M., Kenneth.
Rowell, Haynie, Kearney.
Rusk, J. A., Villa Ridge.
Russell, J. W., Longtown.
Shawhan, R. C., Hale.
Sherman, G. L., St. Joseph.
Shuttee, H. C., West Plains.
Spears, R. S., West Plains.
Standly, Z. T., Laclede.
Stratton, C. D., Rothville.
Sutton, N. E., Blue Ridge.
Tainter, Jos., Warrenton.
Taylor, H. H., Joplin.
Tefft, J. E., Springfield.
Thatcher, J. P., Bunceton.
Trippeer, Bert, Purdin.
Trumbower, M. R., Monett.
Van der Vaart, S., Milo.
Van Note, E., Hamilton.
Waterman, J. A., Breckinridge.
Welch, J. F., Salisbury.
Wilson, W. B., Cape Girardeau.
Willson, G. C., Nevada.
Witmer, C. M., Marble Hill.
Wood, J. B., Marshall.
Wood, E. A., Sedalia.
Woodson, C. R., St. Joseph.
Yates, Martin, Fulton.

MISSISSIPPI.

Alford, J. M., Fernwood.
Barnhill, R. Y., Corinth.
Barr, W. H., Agricultural College
Baskin, J. L., Itta Bena.
Berry, Jos. T. B., Brandon.
Cook, I. H. C., Hattisburg.
Christmas, H., Tchula.
Culley, B. L., Jackson.
Dickerson, L. D., McComb City.
Duncan, B. A., Columbus.
Dunn, S. R., Greenville.
Ewing, C. C., Aberdeen.
Featherston, J. S., Macon.
Gant, H. A., Water Valley.
Gilbert, J. W., Corinth.
Gray, J. W. Jr., Clarkdale.
Greene, W. S., Aberdeen.
Hall, J. C., Anguilla.
Heath, T. A., Shiloh Landing.
Henderson, C. R., Deasonville.
Howard, R. E., Durant.
Hughes, W. P., St. Elmo.
Jagoe, A. J., Hermando.
Jones, R. E., Crystal Springs.
Kell, W. R., Scranton.
Lester, S. P., Batesville.
Lowry, M. J., Meridian.
Moore, J. P., Yazoo City.
Pease, John B. Sr., Gunnison.
Perkins, K. P., Batesville.
Pinault, N. J., Pass Christian.
Potter, W. D., Senatobia.
Price, J. W., Boonville.
Quin, O. B., McComb.
Rape, J. N., Moss Point.
Redus, Wm. D., Port Gibson.
Robertson, A. R., Pass Christian.
Rowland, P. W., Oxford.
Shackelford, J. A., Greenville.
Shinkel, J. N. D., Friars Point.
Taylor, W. A., Rienzi.
Turner, R. L., Meridian.
Unger, J. W., West Point.
Walker, W. E., Pass Christian.
Whitehead, N. E., Greenwood.
Williams, D. J., Ellisville.

MONTANA.

Atkisson, F., Fort Benton.
Buckley, J. J., Missoula.
Campbell, W. H., Kalispell.
Campbell, D., Butte.
Chambliss, C. M., Bozeman.
Cole, Chas. K., Helena.
Craig, Jas., Columbus.
Dodds, E. F., Deer Lodge.
Ford, L. C., Lima.
Gordon, P. R., Great Falls.
Grigg, T. A., Butte.
Hammond, J. S., Butte.
Hopkins, C. F., Chinook.
Jordan, A. J., Marysville.
King, G. W., Marysville.
Leahy, M. M., Anaconda.
Longway, A. F., Great Falls.
MacNevin, M. G., Butte.
McCrimmon, F. W., Butte.
McCullough, G. T., Missoula.
McKay, D. McH., White Sulphur Springs.
Miller, C. B., Helena.
Mills, W. P., Missoula.
Murray, T. J., Butte.
Owings, J. H., Deer Lodge.
Rightenour, Geo. W., Sheridan.
Southmayd, Le Roy, Great Falls.
Sweat, John A., Great Falls.
Treacy, Wm., Helena
Vidal, C. E. K., Belt.
Walker, M. A. Melrose.
Wells, G. R., Livingston.
Wells, G. H., Butte.
Whitefoot, R. M., Bozeman.
Wilson, E. M., Twin Bridges.

NEBRASKA.

Aiken, J. M., Omaha.
Allison, C. C., Omaha.
Anderson, A. B., Pawnee City.
Anderson, C. A., Stromsburg.
Arthur, Mattie L., Omaha.
Artz, C. V., Hastings.
Baker, A. J., Columbus.
Beede, S. C., David City.
Bell, H. S., Kearney.
Benton, E. A., Central City.
Boardman, E. O., Overton.
Borom, S. C., Chapman.
Bowman, L. M., Alliance.
Boyden, H. D., Grand Island.
Breuer, C. H., David City.
Bridges, W. O., Omaha.
Brink, C. A., Ord.
Brother, Fred, Beatrice.
Brownrigg, W. J., Omaha.
Bryant, D. C., Omaha.
Bullard, J. W., Pawnee City.
Bush, J. C. F., Wahoo.
Bush, R. D., Ceresco.
Butler, F. A., Harvard.
Carter, J. O., Lincoln.
Carter, M. D., Tobias.
Christie, W. H., Omaha.
Clark, A. J., Albion.
Cloyd, A. D., Omaha.
Coffin, C. E., Asylum.
Coffman, V. H., Omaha.
Conwell, W. F., Neligh.
Cook, S. E., Lincoln.
Crummer, B. F., Omaha.
Davies, Wm. J., Fremont.
Davis, B. B., Omaha.
Davis, J. C., Omaha.
Dawson, J. O., Lincoln.
Dayton, Wm. L., Lincoln.
Dayton, J. H., Lincoln.
Demaree, H. C., Roca.
Doan, Ira, North Bend.
Drummond, P. K., Wymore.
Earel, A. M., Lincoln.
East, J. H., Rising City.
Evans, C. D., Columbus.
Evans, Morris H., Emerson.
Everett M. H., Lincoln.
Fall, C. P., Beatrice.
Fletcher, E. R., St. Paul.
Francis, H. W., Bancroft.
Fulkerson, W. C., Blue Hill.
Gafford, C. C., Wymore.
Gage, W. V., McCook.
Garten, M. H., Lincoln.
Gay, B. F., Tilden.
Geer, F. H., Columbus.
Gifford, H., Omaha.
Gilmore, G. H., Murray.
Green, J. L., University Place.
Grotham, Ole, St. Paul.
Guttery, J. D., Valparaiso.
Haldeman, F. D., Ord.
Hamilton, H. P., *Omaha.*
Harris, W. J., Beatrice.
Hasemier, J. A., Louisville.
Haughey, I. W., Hampton.
Henry, W. O., Omaha.
Hildreth, M. C., Lyons.
Hoge, W. B., Grand Island.
Hollister, T. C., Louisville.
Hostetter, A. H., *Douglas.*
Hungate, J. B., Weeping Water.
Hunt, W. N., Central City.
Jonas, A. F., Omaha.
Kauffman, E., Hardy.
Keller, A., Falls City.
Kern, W. B., Wood River.
Key, Walter, Pilger.
Lavender, W. R., Omaha.
Lee, D. R., Arcadia.
Leisenring, H. G., Wayne.
Link, H., *Millard.*
Livingston, T. P., Plattsmouth.
Lockard, J. A., Gothenburg.
Long, F. A., Madison.
Loper, A. N., College View.
Lord, J. P., Omaha.
Lowry, H. B., Lincoln.
McClanahan, H. M., Omaha.
McConaughy, Robt., York.
McDonald, R. C., Fremont.
McKeeby, Fred E., Superior.
McKinley, Jerome C., Humphrey.
McKinnon, A. I., Havelock.
McMahan, D. B., Newman Grove.

Main, A. S., Loup City.
Malster, R. M., Stromsburg.
Miller, J. T., Holdrege.
Minnich, C. S., Palmer.
Minton, E. W., Oakdale.
Mitchell, A. R., Lincoln.
Moore, J. E., Alliance.
Moore, R. C., Omaha.
Mooning, J. F., Yutan.
Morris, F. S., McCool Junction.
Moyer, C. C., Lincoln.
Muir, D. H., Lincoln.
Nesbitt, A. D., Tekamah.
Newbecker, Minerva M., Asylum.
O'Connell J. M., Ponca.
Owen, F. S., Omaha.
Packard, F. A., Kearney.
Parchen, H. W., Snyder.
Peabody, J. H., Omaha.
Percival, J. P., Prague.
Pickett, I. N., Odell.
Pollard, J. A., Nehawka.
Porter, I. W., Omaha.
Pritchett, G. L., Fairbury.
Proudfoot, C. P., Liberty.
Quincy, M. A., Ashland.
Quinn, John H., Gothenburg.
Riley, A. W., Omaha.
Robinson, W. C., Clarks.
Roeder, Geo., Grand Island.
Rogers, D. R., Ragan.
Ross, W. L., Omaha.
Rowse, R. Q., Wakefield.
Schaufelberger, J. F., Hastings.
Searles, Mrs. Libbie M., Lincoln.
Shidler, G. W., York.
Shreck, W. A., Bertrand.
Shields, W. D., Holdrege.
Slabaugh, W. H., South Omaha.
Smith, L. B., Fremont.
Somers, A. B., Omaha.
Spaulding, S. K., Omaha.
Stone, R. M., Omaha.
Stout, John, Pender.
Summers, John E., Jr., Omaha.
Sumney, H. C., Omaha.
Sutherland, J. L., Grand Island.
Tilden, Geo., Omaha.
Verpoorten, M. H., Omaha.
Von Mansfelde, A. S., Ashland.
Watson, C., Nebraska City.
White, W. S., South Omaha.
Wilkinson, A. D., Lincoln.
Wilson, H. B., Omaha.
Winnett, H. J., Lincoln.
Wiser, F. C., Falls City.
Wisner, W. O., Hooper.
Woodward, T. H., Lincoln.
Zellers, M. T., Hooper.

NEVADA.

Bergstein, H., Reno.
Campbell, J. D., Pioche.
Guinan, Jas., Carson City.
Hood, C. J., Elko.
Manson, Peter, Virginia City.
Olmsted, A. C., Wells.
Pickard, J. E., Virginia City.
Townsend, S. J., Cherry Creek.

NEW HAMPSHIRE.

Adams, Daniel S., Manchester.
Aldrich, W. H., Marlboro.
Bell, E. L., North Woodstock.
Blairsdell, F., Goffstown.
Blaisdell, G. C., Contoocook.
Blaylock, Ella, Nashua.
Bradford, H. W., Wolfboro.
Carbee, S. P., Haverhill.
Carvelle, H. D. W., Manchester.
Cook, Geo., Concord.
Conn, G. P., Concord.
Currier, E. H., Manchester.
Cutler, G. I., West Swanzey.
Dean, Elmer E., Lebanon.
Drake, C. B., West Lebanon.
Evans, Earl, Winchester.
Fowler, J. N., Meriden.
Fritz, E., Manchester.
Goodhue, P. D., West Springfield.
Goss, O. W., Lakeport.
Gould, Chas. R., Tilton.
Graves, E. E., Penacook.
Greeley, J. T., Nashua.
Harrington, C. W., Peterboro.
Hills, Rosco, Epsom.
Holbrook, H. C., Penacook.
Holt J D., Berlin.
Houghton, E. F., Tilton.
Hoyt, J. Elizabeth, Concord.
Knapp, L. V., Danbury.
Lunnoaette, J. E. A., Manchester.
McQuestin, E. E., Nashua.
Neal, J. H., Rochester.
Oliver, R. F., Alstead.
Parsons, J. W., Portsmouth.
Phipps, A. G., Milan.
Robinson, J. F., Manchester.
Shedd, J. Z., North Conway.
Smith, H. O., Hudson Center.
Smith, W. T., Hanover.
Sullivan, D. E., Concord.
Sullivan, M. B., Dover.
Sweeney, H. L., Kingston.
Taylor, Jos., Bedford.
Thompson, A. V., Snowville.
Wallace, A. S., Nashua.
Walker, C. R., Concord.
Watson, Irving A., Concord.
Weymouth, H. A., Andover.

NEW JERSEY.

Abbott, B. T., Ocean City.
Adams, C. F., Trenton.
Adams, O. H., Vineland.
Allen, U., Jersey City Heights.
Anderson, C., Madison.
Applegate, J. C., Bridgeton.
Ard, F. C., Plainfield.
Armstrong, S. E., Rutherford.
Arnold, J. P., Trenton.
Ashcroft, S. F., Mullica Hill.
Baer, J. S., Camden.
Bailey, C. H., Bloomfield.
Baker, E. M., Jersey City.
Baldwin, H. R., New Brunswick.
Balleray, G. H., Paterson.
Bartow, G. W., Three Bridges.
Barwis, Elmer, Trenton.
Barnes, W. M., Atlantic City.
Baumann, J. J., Jersey City.
Bayles, G., Orange.
Beale, P. W., Camden.
Beatty, Henry M., Trenton.
Bebout, T. W., Stirling.
Benjamin, D., Camden.
Bennett, C. D., Newark.
Bennett, F. W., Atlantic City.
Bickle, S. D., Atlantic City.
Blanchard, O. R. B., Jersey City.
Bleyle, H. C. Newark.
Blundell, Wm. Paterson.
Borden, P., Paterson.
Bowyer, F. F. Jersey City.
Boysen, T. H., Egg Harbor City.
Brien, W. M., Orange Valley.
Brinkerhoff, H.H.,Jr., Jersey City
Bruyere, John, Trenton.
Bull, E. L., Jersey City.
Burd, W. J., Belvidere.
Burns, E. L., Newark.
Bushey, S. G., Camden.
Carman, J. H., Plainfield.
Carpenter, A. E., Boonton.
Carpenter, W. H., Salem.
Carroll, W. E., Newark.
Chambers, T. R., Jersey City.
Chandler, W. J., South Orange.
Chew, E. C., Atlantic City.
Clark, W. A., Trenton.
Clements, J., Nutley.
Closson, E. W., Lambertville.
Coles, J. A., Scotch Plains.
Cooke, H. G., New Brunswick.
Condict, I., Dover.
Condict, A. W., Dover.
Corwin, T. W., Newark.
Corwin, F. M., Bayonne.
Corrigan, J. E., Jersey City.
Corson, F. F., Bargaintown.
Craig, B. P., Jersey City.
Crowell, G. M., Hammonton.
Cummins, G. W., Belvidere.
Currie, D. A., Englewood.
Curts, R. M., Paterson.
Cuscaden, A. D., Atlantic City.
Dallas, A., Bayonne City.
Davis, W. A., Camden.
Darnall, Wm. E., Atlantic City.
Davis, T. G., Bridgeton.
Day, S. Thos., Port Norris.
Day, G. E., Millville.
DeMund, J. T., Ridgewood.
Dennis, J., Newark.
Dickinson, G. K., Jersey City.
Disbrow, W. S., Newark.
Donges, J. W., Camden.
Donohue, L. F., Bayonne.
Donohue, F. M., New Brunswick.
Draton, H. S., Jersey City.
Edwards, J. G., Williamstown.
Edge, B., Jersey City.
Elmer, M. K., Bridgeton.
Elmer, H. W., Bridgeton.
Elmer, Wm., Trenton.
Endicott, G. W., Plainfield.
English, D. C., New Brunswick.
Evans, Britton D., Morris Plains.
Ewen, Warren L., Alloway.
Exton, J. A., Arlington.
Faber, J., Jersey City.
Ferguson, B. W., Beemerville.
Fitch, T. S. P., East Orange.
Fithian, J. W., Camden.
Flagge, F. W., Rockaway.
Flitcroft, Wm., Paterson.
Flynn, J. J., Mount Holly.
Forman, A. C., Bayonne.
Francis, R. P., Montclair.
Fyfe, G. D., Jersey City.
Gage, R. S., Newark.
Gaston, Mary E., Somerville.
Gauntt, F., Burlington.
Godfrey, E. L. B., Camden.
Good, W. T., Quinton.
Goodwin, W. M., Newark.
Graves, W. B., East Orange.
Gray, F. D., Jersey City.
Green, J. S., Elizabeth.
Grim, F. S., Baptisttown.
Grier, E. B., Elizabeth.
Griffith, J. H., Phillipsburg.
Gross, O. B., Camden.
Haley, J. J., Gloucester City.
Halsey, L. M., Williamstown.
Hamill, E. H., Newark.
Hand, L. L., Leesburg.
Harris, P. A., Patterson.
Harrison, J. B., Westfield.
Harvey, T. W., Orange.
Hayden, J. H., Newark.
Hecht, J. P., Raritan.
Hedges, E. W., Plainfield.
Helfer, S. A., Hoboken.
Henry, J. P., Jersey City.
Heritage, C. S., Glassboro.
Herold, H. T., Newark.
Hill, C. D., Jersey City.
Hinkley, L. S., Newark.
Hirst, L. B., Camden.
Hoagland, B. W., Woodbridge.
Hodges, Wm. M., Atlantic City.
Hollingshead, E., Pemberton.
Hollister, L. E., Newark.
Horning, F. L., Camden.
Hough, H. Page, Rahway.
Howard, J. T. D., Shiloh.
Hunt, A. C., Metuchen.
Ill, C. L., Newark.
Ill, Ed. J., Newark.
Ireland, W. H., Camden.
Irwin, A., Camden.
Iszard, W. H., Camden.
Jackson, A. J., Matawan.
James, H. C., Mays Landing.
James, W. H., Pennsville.
Janney, F. S., Riverton.
Jarrett, H., Camden.
Johnson, W. B., Paterson.
Johnson, C. R., Atlantic City.
Jones, Wm. S., Camden.
Joy, J. A., Atlantic City.
Kelchner, W. J., Camden.
Kent, G. R., Newark.
Kinch, F. A., Westfield.
Kip, H., Paterson.
Kirkbride, M. F., Spring Lake Beach.
Kornemann, H. A., Newark.
Kyte, C. F., Jersey City.
Lake, W. A., Cold Spring.
Lalor, W. S., Trenton.
Lambert, F. E., Jersey City.
Laws, G. A., Paulsboro.
LeFevre, A. L., Blackwood.
LeMoyne, F., Point Pleasant.
Leavitt, J. F., Camden.
Leal, J. L., Paterson.
Lippincott, A. H., Camden.
Long, Isaac, Freehold.
Lucas, H. H., Paterson.
Luther, C. V., South Orange.
McAlister, Alexander, Camden.
McCormick, H. D., Verona.
McCoy, J. C., Paterson.
McFadden, G. H., Hackensack.
McGalliard, B. W., Trenton.
McGee, W. H., Belvidere.
McGill, J. D., Jersey City.
MacKintosh, M. A., Paterson.
McLean, T. N. Elizabeth.
MacFarland, B. W., Bordentown.
Mackenzie, T. H., Trenton.
Mack, W. A. M., Elizabeth.
Marcy, F. W., Camden.
Marcy, A., Jr., Riverton.
Marvel, Philip, Atlantic City.
Marvel, E., Atlantic City.
Mead, Sarah B., Newark.
Mecray, P. M., Camden.
Megaro, P., Newark.
Melcher, W. P., Mt. Holly.
Merrill, J. R., Paterson.
Miller, H. G., Millville.
Millspaugh, D. T., Paterson.
Mitchell, Henry, Trenton.
Moore, R. H., Trenton.
Moore, E. H., Whitehouse Station.
Moore, G. R., Trenton.
Morrison, E., Newton.
Myers, C. F. W., Paterson.
Nash, A. V., Newark.
Neer, H. C., Park Ridge.
Neer, Wm., Paterson.
Nevin, John, Jersey City.
Newall, W. L., Millville.
Newton, R. C., Montclair.
Nichols, H. D., Atlantic City.
Nicholson, J. L., Camden.
North, J., Atlantic City.
Oliphant, N. B., Trenton.
Osmun, M. M., Camden.
Osmun, L. C. Hackettstown.
Palm. H. F., Camden.
Parsons, R. H., Mt. Holly.
Parsons, J. C., Jersey City.
Peck, G., Elizabeth.
Pellett, J. B., Hamburg.
Pennington, B. C., Atlantic City.
Pettitt, A., Elizabeth.
Pierson, Wm., Orange.
Phillips, C. B., Hurffville.
Pollard, W. M., Atlantic City.
Powell, W. M., Atlantic City.
Powell, Wm. R., Camden.
Presley, Sophia, Camden.
Price, Franklin C., Imlaystown.
Price, T. T., Tuckerton.
Probasco, John B., Plainfield.
Purdy, C. H., Jersey City.
Quinn, S. T., Elizabeth.
Randolph, J. M., Rahway.
Reading, G. E., Woodbury.
Reed, E. L., Atlantic City.
Read, J. W., Newark.
Reed, T., Atlantic City.
Reed. T. K., Atlantic City.
Reed. B., Hammonton.
Reilly, John P., Elizabeth.
Reiley, E. A., Atlantic City.
Reynolds, W., Atlantic City.
Ridge, J. M., Camden.
Risk, J. B., Summit.
Roden, H. P., Newark.
Rogers, A. W., Paterson.
Rolerfort, G. W., Newark.
Romine, G. T., Lambertville.
Rosenkrans, J. H., Hoboken.
Rundle, G. L., Passaic.
Ryerson, J. G., Boonton.
St. John, D. B., Hackensack.
Scribner, C. H., Paterson.
Seidler, W. F., Newark.
Seidman, M., Newark.
Senseman, Theodore, Atlantic City.
Sexsmith, G. H., Bayonne.
Sharp, E. S., Atlantic City.
Shaw, J. B., Trenton.
Shepard, C., Trenton.
Sheppard, J., Bridgeton.
Sherk, H. H., Camden.
Shipps, Wm. H., Bordentown.
Sinclair, R. R., Westfield.
Skinner, D. M., Belleville.
Small, A. H., Riverside.
Smith, D. W., Newark.
Sommer, G. N. J., Trenton.
Somers, M. L., Atlantic City.
Spencer, H., Jersey City.
Sproul, O. H., Flemington.
Stewart, F. E., East Orange.
Stewart, J. M., Paterson.
Stewart, W. B., Atlantic City.
Stillwell, A. L., Somerville.
Stilwagon, P. E., Gloucester.
Stockton, Chas. S., Newark.
Stock, Jacob F., Camden.
Stout, Harry A., Wenonah.
Stokes, J., Moorestown.
Straley, S. B., Newton.
Stanger, S. F., Harrisonville.
Strock, D., Camden.
Stroud, Frank G., Moorestown.
Sutphen, T. Y., Newark.
Taylor, H. G., Camden.
Terry, J. W., Englewood.
Vail, H. B., Belleville.
Van Gaasbeck, H. D., Deckertown.
Van Horn, A. F., Plainfield.
Van Syckle, A. C., Hackettstown.
Van Vranken, G., Passaic.
Vroom, W. L., Ridgewood.
Voorhees, C. H., New Brunswick.
Wade, J. W., Millville.
Waddington, B. A., Salem.
Wainwright, J. B., Manasquan.
Ward, J. W., Trenton.
Ward, Arthur, Newark.
Washington, W. S., Newark.
Way, Eugene, Dennisville.
Webster, J. Bart, Atlantic City.
Weeks, Henry M., Skillman.
Wheeler, H. S., Whippany.
Wigg, C., Boonton.
Wilson, C. W., Vineland.
Wilson, H. A., Woodbury.
Wilson, S. M., Bridgeton.
Wolfe, W. J., Chatham.
Woolley, S. J., Long Branch.
Wyler, Max, Fort Lee.
Yc[illegible] C., Newar[illegible]
[illegible] J., [illegible]

NEW MEXICO.

Bailey, W. C., Las Vegas.
Easterday, G. S., Albuquerque.
Elder, J. W., Albuquerque.
Gilbert, B., Silver City.
Hope, W. G., Albuquerque.
Joyner. W. T.. Roswell.
McConnell, J. F., Las Cruces.
Nichols, C. B., Fort Wingate.
Palmer, F., Cerillot.
Perkins, D. S., Las Vegas Hot Springs.
Rolls, J. A., Watrous.
Shaw, E. B., E. Las Vegas.
Slack, J. C., Clayton.
Tipton, W. R., Las Vegas.
Van Cleave, A. H., Silver City.
Waldschmitt, C. H., Alamogordo.
Wrubel, Solomon, Las Vegas.

NEW YORK.

Brooklyn.

Ager, L. C., Brooklyn.
Arrowsmith, H., Brooklyn.
Bahrenburg, L. P. H., Brooklyn.
Baldwin, L. G., Brooklyn.
Bierwirth, J. C., Brooklyn.
Bishop, H. M., Brooklyn.
Bodkin, D. G., Brooklyn.
Brown, T. E., Brooklyn.
Brush, A. C., Brooklyn.
Bryn, H., Brooklyn.
Brundage, Albert H., Brooklyn.
Byrne, J., Brooklyn.
Burge, J. H. H., Brooklyn.
Campbell, W. F., Brooklyn.
Coffin, L., Brooklyn.
Conway, J. F., Brooklyn.
Cook, C. D., Brooklyn.
Deszigethy, C. C., Brooklyn.
Eccles, R. G., Brooklyn.
Ford, A. W., Brooklyn.
Fowler, Geo. R., Brooklyn.
Gildersleeve, C. P., Brooklyn.
Gulick, C. R., Brooklyn.
Hopkins, G. G., Brooklyn.
Ingalls, J. W., Brooklyn.
Jenkins, J. A.. Brooklyn.
Judd, A. M., Brooklyn.
Kene, J. A., Brooklyn.
Kennedy, J. C., Brooklyn.
Lester, J. C., Brooklyn.
Little, F., Brooklyn.
Lloyd, T. M., Brooklyn.
Lundgren, C. E., Brooklyn.
McCollum, Wm., *Brooklyn.*
Magilligan, F. J., Brooklyn.
Malone, J. W., Brooklyn.
Mayne, Earl H., Brooklyn.
Milbury, F. S., Brooklyn.
Murphy, J. P., Brooklyn.
North, N. L., Brooklyn.
O'Connell, J. F., Brooklyn.
Oatman, E. L., Brooklyn.
Ostrander, G. A., Brooklyn.
Polak, J. O., Brooklyn.
Pray, Susan R., *Brooklyn.*
Raynor, F. C., Brooklyn.
Reynolds, Edwin, Brooklyn.
Rushmore, J. D., Brooklyn.
Shepard, C. H., Brooklyn.
Sheppard, J. E., Brooklyn.
Sherwell, S., Brooklyn.
Squibb, E. R., Brooklyn.
Squibb, E. H., Brooklyn.
Sullivan, J. D., Brooklyn.
Walton, T. C., Brooklyn.
Waterworth, Wm., Brooklyn.
Wight, J. S., Brooklyn.
Williams, W. H., Brooklyn.
Wright, J., Brooklyn.
Wunderlich, F. W., *Brooklyn.*
Wyckoff, R. M., Brooklyn.
Yerdon, C. F., Brooklyn.

Buffalo.

Allen, T. G., Buffalo.
Benedict, A. L., *Buffalo.*
Bennett, A. G., Buffalo.
Brecht, F. E. L., Buffalo.
Briggs, A. H., Buffalo.
Burrows, Lorenzo, Buffalo.
Buswell, H. C., Buffalo.
Coakley, J. B., Buffalo.
Congdon, C. E., Buffalo.
Cott, G. F., Buffalo.
Fowler, J., Buffalo.
Frederick, C. C., Buffalo.
Fritz, W. C., *Buffalo.*
Fronczak, Francis E., Buffalo.
Green, Stephen S., Buffalo.
Grosvenor, J. W., Buffalo.
Harrington. D. W., Buffalo.
Hayd, H. E., Buffalo.
Howard, C. F., Buffalo.
Howe, Lucien, Buffalo.
Hubbell, A. A., Buffalo.
Ingraham, H. D., Buffalo.
Jones, A. A., Buffalo.
Mynter, H., Buffalo.
Nichell, H., Buffalo.
Park, Roswell, Buffalo.
Phelps, W. G., Buffalo.
Rochester, D., Buffalo.
Starr, Elmer G., Buffalo.
Stockton, C. G., Buffalo.
Thornton, W. H., Buffalo.
Twohey, J. J.. *Buffalo.*
Ullman, J., Buffalo.
Wall, Chas. A., Buffalo.
Wasdin, E., Buffalo.
Wende, Ernest, Buffalo.
Wyckoff, C. C., Buffalo.

New York City.

Abraham, J. H., New York.
Adler, I.. New York.
Allen, T. H., New York.
Anderson, R. H., New York.
Anderton, W. B., New York.
Asch, J. H., New York.
Ashmead, A. S., New York.
Austin, D. P., New York.
Bache, J. H., New York.
Bangs, L. B., New York.
Barstow, D. M., New York
Barksy J, New York.
Barnes, G. E., New York.
Bates, W. H., New York.
Bayley, Russell, New York.
Beck, Carl, New York.
Benedict, C. S., New York.
Bermingham, E. J., New York.
Biggs, H. M., New York.
Bilhoefer, A. J., New York.
Bishop, Louis F., New York.
Bissell, J. B., New York.
Boldt, H. J., New York.
Bosworth, F. H., New York.
Brayton, W. D., New York.
Brothers, S. F., New York.
Brown, J. M., New York.
Bryant, J. D., New York.
Bulkley, L. D., New York.
Burrell, F. A., New York.
Burckhalter, T. D., New York.
Burtenshaw, J. H., New York.
Callan. P. A., New York.
Campbell, J. R., New York.
Carter, C. B.. New York.
Carter, De Lancy, New York.
Carr, W., New York.
Chetwood, C. H., New York.
Child, C. G. Jr., New York.
Claiborn, J. H. Jr., New York.
Cleaves, M. A., New York.
Clemens, J. B., New York.
Cocks, E. L., New York.
Cocks, G. H., New York.
Coley, W. B., New York.
Concannon, J. J., New York.
Coughlin, J. H., New York.
Curtis, G. L., New York.
Curtis. H. H., New York.
Curran, M. W., New York.
Cutter, E., New York.
Cutter, J. A.. New York.
Dawbarn, R. H. M., New York.
Dalton, W. R. I., New York.
Dawson, D. H., New York.
Davis, J. G., New York.
De Garmo, Wm. B., New York.
De La Roche, C. P., New York.
Delphey, Eden V., New York.
Dench, E. B., New York.
Denison, C. E., New York.
Denig, R., New York.
Denison, E., New York.
Drayton, H. S., New York.
Dudley, A. P., New York.
Dunham, E. K., New York.
Ende, L. A., New York.
Eastman, R. W.. New York.
Eichberg, L. R.. New York.
Einhorn, M., New York.
Elezarian, M. K., New York.
Eliott, E.. New York.
Erdmann, J. F., New York.
Eynon, W. G., New York.
Ferguson, F., New York.
Fischer, Louis, New York.
Fite, C. C., New York.
Flint, Austin, New York.
Fordyce, J. A., New York.
Foerster. F., New York.
Frauenthal, H. W.. New York.
Franklin, D., New York.
Freudenthal, W.. New York.
Fridenberg, Edward, New York.
Gahagan, W. L., New York.
Gallant, A. E., New York.
Gant, S. G., *New York.*
Gibney, Virgil P., New York.
Gleitsmann, J. W.. New York.
Goelet, A. H., New York.
Goffe, J. R., New York.
Goldan, S. O.. New York.
Goldstein, S., New York.
Goldstein, D. D., New York.
Gottheil, W. S.. New York.
Gottlieb, J. A., New York.
Gouley, J. W. S., New York.
Grad, H., New York.
Graber, S. S., New York.
Greene, R. H., New York.
Green, N. W., New York.
Guiteras, R., New York.
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Hart, E. H., New York.
Harris, E. E., New York.
Harrison, G. T., New York.
Harrison, G., New York.
Hatch, H. D., New York.
Heuel, E., New York.
Hotchkiss, L. C., New York.
Haynes, I. S., New York.
Heller, I. M., New York.
Henry, N. H., New York.
Hepburn, N. J., New York.
Hillis, T. J., New York.
Hinton, J. H., New York.
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Holden, T. N., New York.
Holder, O. H., New York.
Hubbard, E. V., New York.
Huddleston, J. H.. New York.
Hymanson, A., New York.
Illoway, H., New York.
Imperatori, Carlo, New York.
Irwin, W. J., New York.
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Janvrin, J. E.. New York.
Janaway, E. G., New York.
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Jurin, T., New York.
Kalish, R., New York.
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Kelly. T., New York.
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Kenefick, T. A., New York.
Kerrison, P. D., New York.
Klotz, Walter C., New York.
Knight, Chas., New York.
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Knopf, S. A., New York.
Koles, Henry M.. New York.
Kubin, W. K.. New York.
Korn, A., New York.
Leale. Charles A., New York.
Lee, Elmer, New York.
Leszynsky, W. M., New York.
Leviseur, F. Y., New York.
LeWald, Leon T., New York.
Lewis, R., New York.
Lippincott, A. C., New York.
Lombard, G. D., New York.
Loomis, H. P., New York.
Louis, I., New York.
Lovis, H. C., New York.
Ludlow, O. C., New York.
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McAlpin, D. H., New York.
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MacKenzie, J. C., New York.
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Oppenheimer, S., New York.
Outerbridge, P.. New York.
Paepke, Jacob G.. New York.
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Plasse, Louis de, New York.
Pooler, H. A., New York.
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Prentiss, J. H., New York.
Pritchard, W. B.. New York.
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Randolph, M. E., New York.
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Robinson, F. C., New York.
Ruggles, A. D., New York.
Sayre, R. H., New York.
Schoonover, W., New York.
Seaman, L. L., New York.
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Silver, L. M., New York.
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Steger, R. W., New York.
Stern, H., New York.
Stevens, Geo. T.. New York.
Stevens, C. W., New York.
Stewart, F. E., New York.
Stowe, B., New York.
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Studdiford, W. E., New York.
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Taylor, T. M.. New York.
Terriberry, W. S., New York.
Thomas, T. G., New York.
Townsend, W. R., New York.
Trimble, W. B., New York.
Tucker, C. P.. New York.
Tull, E. E., New York.
Tuttle, J. P., New York.
Valentine. F. C., New York.
Vineberg, H. N., New York.
Wackerbarth, H. J., New York.
Wainright, J. W., New York.
Walsh, J. J., New York
Wandless H W., New York.
Warden, A. W., New York.
Watkins, R., New York.
Webb, Z. Swift, New York.
Weeks, J. E., New York.
West, W. E., New York.
Whitmore, B. T., New York.
Whitney, C. A., New York.
Wiggin, F. H., New York.
Williams, J. J., New York.
Witthaus, R. A., New York.
Woodward, J. H., New York.
Wurm, C., New York.
Wyeth, J. A., New York.

Abrams, H. C., Newtonville.
Acker, T. J., Croton on Hudson.
Ainsworth, H. R., Addison.
Akin, W., Troy.
Arnold, J. N., Clyde.
Ayling, W. J., Syracuse.
Ayres, D., Fort *Plain.*
Bacon, C. G.. Fulton.
Baker, B. N., Rhinebeck.
Baldwin, E. R., Saranac Lake.
Banister, J. M., West Point.
Barlght, H. E., Clifton Springs.
Barton, L. G., Willsboro.
Barton, S. T., Lestershire.
Bassett, M. Imogene, Cooperstown.
Bayley, G. C., Poughkeepsie.
Bayley, N. B., Haverstraw.
Beahan, A. L., Canandaigua.
Bellows, G. A., Waterloo.
Bemus, W. M., Jamestown.
Biggs, C. P., Ithaca.
Birdsall, G., N. Brookfield.
Blair, L. P., McDonough.
Bontecou, R. B., Troy.
Boyd, James P., Albany.
Brinkman, A., Central Valley.
Brownell, Mary A., Newark.
Brown, J. W., Mottville.
Brown, John P., Nunda.
Brown, U. H., Syracuse.

Brush, E. F., Mt. Vernon.
Burrell, D. R., Canandaigua.
Burbeck, C. H., Troy.
Burhyte, O. W., Brookfield.
Cahill, J. T., Hoosick Falls.
Campbell, A. J., Syracuse.
Carpenter, H. W., Oneida.
Clark, W., Utica.
Colvin, D., Clyde.
Comstock, G. F., Saratoga Springs.
Comfort, C. V. C., Rochester.
Contant, R. B., Tarrytown.
Conner, M. C., Middletown.
Creveling, J. P., Auburn.
Culver, C. M., Albany.
Darrow, C. E., Rochester.
Davis, J. C., Rochester.
Dennis, F. W., Unionville.
DeWitt, Byron, Oswego.
Didama, H. D., Syracuse.
Didama, E. A., Cortland.
Dodge, A. P., Oneida.
Dolley, Sarah R. A., Rochester.
Doyle, G., Syracuse.
Dudley, Dwight, Maine.
Dunn, B. S., Ardsley on Hudson.
Eastman, H. A., Jamestown.
Eastman, R. D., Berkshire.
Edwards, G. A., Syracuse.
Edwards, A. S., Syracuse.
Eiseline, D. A., Shortville.
Ellinwood, A. G., Attica.
Farrington, J. M., Binghamton.
Fenno, Henry M., Rochester.
Ferguson, E. D., Troy.
Fielding, F. G., Glens Falls.
Fisher, J. C., Elmira.
French, S. H., Amsterdam.
Fritts, C. E., Hudson.
Day, Mary Gage, Kingston on Hudson.
Garlock, Wm. D., Little Falls.
Gibbons, P. J., Syracuse.
Gilbert, Horatio, Hornellsville.
Glidden, C. H., Little Falls.
Goff, I. N., Cazenovia.
Goler, G. W., Rochester.
Goodwin, H. T., Stapleton.
Gordinier, H. C., Troy.
Gow, F. F., Schuylerville.
Granger, W. D., Bronxville.
Greene, Cordelia A., Castile.
Greenley, T. W., Loon Lake.
Guy, J. D., Chenango Forks.
Hagey, J. M., Mt. Morris.
Handler, L., Rochester.
Harnden, R. S., Waverly.
Hart, J. A., Geneva.
Hart, I. F., Elmira.
Haynes, J. U., Cohoes.
Head, A. D., Syracuse.
Heimstreet, T. B., Troy.
Hendricks, H. C., McGraw.
Higgins, F. W., Cortland.
Houston, D. W., Troy.
Hovey, B. L., Rochester.
Howk, Loron W., Rochester.
Hubbard, C. G., Hornellsville.
Humphrey, J. F., Saratoga.
Hunt, W. J., Glens Falls.
Hupp, F. L., Lake George.
Hulette, G. S., Arcade.
Jackson, A. P., Oakfield.
Jacobson, N., Syracuse.
Jamison, J. S., Hornellsville.
Jewett, J. N., Canandaigua.
Johnson H. W., Hudson.
Jones, Geo. H., Fowlerville.
Julian, J. M., Pleasant Valley.
Kelley, J. G., Hornellsville.
Kemper, J. J., Rochester.
Kenyon, Frank, Scipio.
King, J. K., Watkins.
Kindrel, J. J., Astoria, L. I.
Kittinger, M. G., Lockport.
Landon, N. E., Newark.
Leaning, J. K., Cooperstown.
Le Roy, I. D., Pleasant Valley.
Lindsay, W., Huntington.
Lockwood, J. W., Philmont.
Lounsberry, R. L., Binghamton.
Lukens, Anna, Pelham.
Lusk, Z. J., Warsaw.
Lyon, E. M., Plattsburg.
McBlaine, T. J., Niagara Falls.
MacDonalds, M. G., Albany.
McGann, Thos., Wells.
Mann, C. C., Warsaw.
Martin, J. H., Binghamton.
Martine, Godfrey R., Glens Falls.
Mercer, A., Syracuse.
Miller, A. B., Syracuse.
Miller, J. B., Batavia.
Mitchell, Samuel, Hornellsville.
Moore, E. M., Rochester.
Morton, T. S. K., Honnedaga.
Moriata, D. C., Saratoga.
Morris, J. W., Jamestown.
Nichols, C. E., Troy.
Noxon, D. C., Bloomingburg.
Nutten, W. F., Newark.
O'Hare, Thos. A., Rochester.
Orton, J. G., Binghamton.
Osterhout, E. R., Trumansburg.
Palmer, C. N., Lockport.
Palmer, H. C., Utica.
Parkhill, C. S., Hornersville.
Parent, Jos. S., Birchton.
Parsons, John, Kings Bridge.
Payne, C. S., Liberty.
Porteous, J. L., Yonkers.
Preston, B. I., Rochester.
Pultz, M. T., Stanfordville.
Rabuck, S. H., Bloomville.
Ransom, J. B., Dannemora.
Redfield, Chas. I., Middletown.
Reese, F. D., Cortland.
Reid, Wm. B., Rome.
Richmond, C. H., Livonia.
Richards, C. H., Dunkirk.
Roe, J. O., Rochester.
Rogers, H. R., Dunkirk.
Rosseau, Z., Troy.
Sands, N. J., Port Chester.
Schmid, H. E., White Plains.
Scott, G. T., Davenport.
Seymour, W. W., Troy.
Sheffield, J. W., Binghamton.
Shulman, A., Arverne.
Small, J. W., North Tarrytown.
Smith, Homer Erastus, Norwich.
Smith, S., Skaneateles.
Spaulding, F. W., Clifton Springs.
Spratling, W. P., Sonyea.
Stanton, Wm., Varysburg.
Stearns, B. W., Long Eddy.
Stebbins, F. L., Geneva.
Still, D. W., Johnstown.
Stockwell, J. K., Oswego.
Stockschlaeder, P., Rochester.
Stoner, G. W., Stapleton, S. I.
Stowe, Wm. H., Cross River.
Stubbert, J. E., Liberty.
Straight, A. B., Perry.
Strong, T. D., Westfield.
Strong, O. C., Colden.
Suiter, A. Walter, Herkimer.
Swan, W. E., Saratoga Springs.
Taylor, J. H., Holley.
Taylor, R. A., Otisville.
Tefft, Chas. B., Utica.
Thayer, C. C., Clifton Springs.
Theisen, C. F., Albany.
Thissell, J. A., Tupper Lake.
Townsend, M. W., Bergen.
Tozier, L. L., Batavia.
Tripp, C. H., Clinton Corners.
Vanderveer, A., Albany.
Van Ettan, C. S., Rhinebeck.
Von Hoevenberg, H., Kingston.
Varney, M. E., Saratoga Springs.
Wales, T. A., Elmira.
Walker, J. E., Hornellsville.
Ward, R. H., Troy.
Ward, John J., Ellenville.
Warner, J. W., Saratoga.
Watson, W. S., Fishkill on the Hudson.
Webster, W. B., Schuylerville.
Wenz, J., Lancaster.
West, C. B., East Onondaga.
Wiggins, H., Elbridge.
Wilson, Thos., Hudson.
Wilson, M. J., Warsaw.
Wilkin, J. H., Rushville.
Witter, G., H. Wellsville.
Williams, G. O., Greene.
Woodruff, E. H., Auburn.
Woodruff, R. A., Philmont.
Woodsworth, T. F., Kinderhook.
Zeh, M. J., Watervliet.

NORTH CAROLINA.

Adams, M. R., Statesville.
Ambler, C. P., Asheville.
Anderson, T. E., Statesville.
Bagwell, W. H., Greenville.
Battle, S. W., Asheville.
Brown, J. S., Salisbury.
Brown, G. A., Bear Poplar.
Burroughs, J. A., Asheville.
Cheeseborough, T. P., Asheville.
Cobb, H. H., Goldsboro.
Ellis, R. C., Shelby.
Fletcher, M. H., Asheville.
Gibbon, R. L., Charlotte.
Gill, R. J., Henderson.
Gladmon, E., Southern Pines.
Goelet, E. P., Saluda.
Glenn, E. B., Asheville.
Haight, T. D., Fayetteville.
Harris, F. R., Henderson.
Highsmith, J. F., Fayetteville.
Hilliard, W. D., Asheville.
Houck, A., Lenoir.
Hunter, L. W., Sardis.
Jones, Wm. J., Goldsboro.
Kernodle, J. L., Elon College.
Kirkpatrick, W. L., Crab Tree.
Laird, E. C., Hot Springs.
Long, G. W., Graham.
Lumsden, Wm. J., Elizabeth City.
Maxwell, C. S., Mt. Olive.
Meriwether, F. T., Asheville.
Minor, C. L., Asheville.
Morris, E. R., Asheville.
Munroe, J. P., Davidson.
Nisbet, W. O., Charlotte.
O'Hagan, C. J., Greenville.
Paquin, Paul, Asheville.
Parrott, J. M., Kinston.
Pearson, C. L., Asheville.
Peavy, J. F., Asheville.
Perry, T. B., Wilmington.
Prioleau, W. H., Highlands.
Reagan, J. A., Weaverville.
Reynolds, C. V., Asheville.
Royster, H. A., Raleigh.
Von Ruck, Karl, Asheville.
Sawyer, J., Asheville.
Stafford, W. G., Burlington.
Stringfield, T., Waynesville.
Walton, J. C., Reidsville.
Way, J. Howell, Waynesville.
Weaver, H. B., Asheville.
Williams, J. H., Asheville.

OHIO.

Adams, E. P., Cincinnati.
Agin, Charles Clinton, Cincinnati.
Alcorn, J. B., Gallipolis.
Alban, D. R., Ironton.
Albl, M. A., Cleveland.
Aldrich, D. B., Ashtabula.
Alexander, Wm. S., Oxford.
Alford, Judson, B., Grand Rapids.
Allard, L. D., Portsmouth.
Allen, S. E., Cincinnati.
Allen, Dudley P., Cleveland.
Allen, G. M., Cincinnati.
Alley, E. H., Toledo.
Alter, F. W., Toledo.
Alwood, R. R., Montpelier.
Anderson, J., Salem.
Anderson, Lewis C., Greenville.
Andre, O. C., Waverly.
Andrews, R., East Liverpool.
Archer, J. D., Holgate.
Armentrout, L. W., Mt. Vernon.
Arner, W. P., Fowler.
Arnold, Geo. B., Madisonville.
Arndt, H. W., Lore City.
Axline, J. D., Shawnee.
Axline, Chas. Z., Fultonham.
Ayres, S. C., Cincinnati.
Backus, L. C., Fayette.
Bain, F. D., Kenton.
Baker, A. R., Cleveland.
Baldwin, J. F., Columbus.
Ballinger, J. B., Webster.
Barrett, J. E., Wooster.
Barnhill, J. U., Columbus.
Barrere, D. M., Dayton.
Barnes, B. Frank, Hemlock.
Bates, Fred L., Lima.
Beardsley, C. E., Ottawa.
Bean, G., Rutland.
Bean, Lewis C., Gillopolis.
Beck, John S., Dayton.
Becker, B., Toledo.
Becker, W. H., North Industry.
Beebe, B. F., Cincinnati.
Beetham, A. C., Bellaire.
Beers, A. M., Newcomerstown.
Beery, G. O., Lancaster.
Beery, J. E., Columbus.
Beeson, H. A., Leesburg.
Begg, W. H., Columbus Grove.
Belt, W. A., Kenton.
Bennett, J. H., Youngstown.
Bennett, P. R., Urbana.
Bennett, W. C., Mt. Gilead.
Benner, C. T., Tiffin.
Berry, J. S., Peebles.
Bessey, J. M., Toledo.
Bettman, H. W., Cincinnati.
Biechele, Robert A., Canton.
Bigham, J. G., Millersburg.
Binder, Albert, Ottoville.
Bird, Edward A., Dupont.
Birchard, A. D., Cincinnati.
Bishop, S. P., Delta.
Blankenhorn, H., Orrville.
Blackburn, A. M., Steubenville.
Blair, B. H., Lebanon.
Blake, F. W., Columbus.
Bliss, H. C., Cleveland.
Bodman, L. H., Toledo.
Boerstler, G. W., Lancaster.
Boggess, E. M., Washington C.H.
Bohl, J. Sr., Watertown.
Bohl, Jacob, Marietta.
Bonifield, Chas. L., Cincinnati.
Bonner, H., Dayton.
Bonner, C. A., Dayton.
Bonnet, A. O., Columbus.
Booth, C. C., Youngstown.
Bowen, Arthur Hosmer, Columbus.
Boyd, J. P., Akron.
Bramble, D. D., Cincinnati.
Brant, A. C., Canton.
Brant, E. D., Canton.
Brent, C. P., Cincinnati.
Briggs, Eldorado, Wilmington.
Brigham, O. S., Toledo.
Brockett, A. J., Cleveland.
Brown, J. E., Columbus.
Brown, J. A., Germantown.
Brown, Wm. G., Lewisburg.
Bruner, Wm. Evans, Cleveland.
Brunning, F., Cincinnati.
Brundage, A. H., Xenia.
Bruhl, G., Cincinnati.
Brush, E. C., Zanesville.
Buckner, James H., Cincinnati.
Buechner, W. L., Youngstown.
Bunts, F. E., Cleveland.
Bundy, D. B. Jr., Middletown.
Bunce, Wm. C., Oberlin.
Bunn, J. W., West Union.
Burke, T. A., Cleveland.
Burrows, S. S., Geneva.
Burns, Katherine, Canton.
Burton, E. G., Lima.
Buttemiller, J. C., Cincinnati.
Byall, H. M., Montpelier.
Cable, T. B., Pemberton.
Caldwell, C. E., Cincinnati.
Caldwell, J. S., Cincinnati.
Campbell, O. B., Cleveland.
Campbell, Elizabeth, Cincinnati.
Carnes, W. S., Pierce.
Carnes, U. M., Canton.
Carmichael, W. A., Loveland.
Carpenter, Julia W., Cincinnati.
Carpenter, E. G., Columbus.
Carter, J. L., West Carrollton.
Cartwright, J. W., Payne.
Case, C. E., Ashtabula.
Case, Freeman D., Ashtabula.
Castle, C. H., Cincinnati.
Caywood, J. Robert, Lockington.
Chadwick, L. S., Cleveland.
Chapman, Lee Jackson, Columbus.
Chapman, W. C., Toledo.
Chapman, Byron, Copley.
Chamberlin, C. S., Kinsman.
Chisholm, H., Marion.
Clark, M. S., Youngstown.
Clark, J. F., Toledo.
Clark, J. A., Glencoe.
Clark, C. F., Columbus.
Clay, W. P., Mendon.
Cleaver, Jos. V., Akron.
Cleveland, John L., Cincinnati.
Clouse, G. M., Columbus.
Coates, B. O., Cleveland.
Cobb, F. A., Toledo.
Cochrass, J. L., Ironton.
Cogan, J. E., Cleveland.
Cole, C. C., Bridgeport.
Cole, W. N., Columbus.
Cole, Alfred P., Ironton.
Cole, C. B., Grand Rapids.
Coleman N R., Columbus.
Coleman, J. A., Toledo.
Coleman, W., Troy.
Collins, B. F., Youngstown.
Collins, Milton H., South Charleston.
Collins, E. F., Mt. Sterling.
Collamare, G. A., Toledo.
Colton, J. G., Cleveland.
Colville, Robt. W., Mt. Vernon.
Conklin, Samuel A., Canton.
Conrad, G. R., New Vienna.
Cone, J. E., Youngstown.
Conner, P. S., Cincinnati.
Conklin, W. J., Dayton.
Cook, J. E., Cleveland.
Cook, G. F., Oxford.
Cook, A. F., Sandusky.
Cook, A. J., Cleveland.
Cook, L. E., Cincinnati.
Cook, R. Harvey, Oxford.
Cooper, A., Columbus.
Cooperrider, C. A., Columbus.
Cope, E. C., Barton.
Corson, O. M., Middletown.
Corl, H. E., Middle Branch.
Corlett, W. T., Cleveland.
Cosgrove, T. M., Toledo.
Costolo, J. W., Sidney.
Cotton, J. D., Marietta.
Cotton, D. B., Portsmouth.
Courtright, G. S., Lithopolis.
Courtright, D. V., Circleville.
Cowan, F., Ashland.
Cozad, Henry Irving, Akron.
Crane, A. M., Marion.
Crane, W. H., Cincinnati.
Crane, C. A., Canton.

Crile, Geo. W., Cleveland.
Cromer, P. E., Piqua.
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Culler, J. F., Lucas.
Cullen, G. J., Cincinnati.
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Dandridge, N. P., Cincinnati.
Darby, F. H., Columbus.
Davis, J. L., Cincinnati.
Davis, J. I., Shawnee.
Davis, C. W., Cincinnnati.
Davidson, J. F., North Amherst.
Davidson, N. P., Hilliard.
Davenport, A. B., Columbus.
Davisson, J. A., Dayton.
Davy, J. O., Springfield.
Day, H. M., Pandora.
Death, H. J., Franklin.
Denison, J. M., Blatchford.
Denman, W. C., Marion.
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De Vilbiss, E., Toledo.
DeWitt, J. P., Canton.
DeWitt, Wm. H., Cincinnati.
Dick, W. L., Columbus.
Dickes, Philip, Greenville.
Dickey, T. A., Middletown.
Dickey, W. A., Toledo.
Dine, C. L., Minster.
Dissinger, H., Canal Fulton.
Diven, A. W., Martins Ferry.
Dixon, M. T., Columbus.
Dorman, H. W., Harbor.
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Duncan, J. A., Toledo.
Dunham, J. M., Columbus.
Dunham, Wm. H., Cincinnati.
Dunn, O. B., Ironton.
Dutton, C. F., Cleveland.
Eakins, Jehu, Patriot.
Early, L. M., Columbus.
Eddy, Chas. W., Marietta.
Eddy, Isaac P., Newport.
Edmiston, W. E., Columbus.
Eichberg, Joseph, Cincinnati.
Elliott, James T., East Liverpool
Ely, J. D., Toledo.
Emerick, E. J., Columbus.
Entriken, F. B., Findlay.
Erwin, M. B., Gibsonburg.
Erwin, A. J., Mansfield.
Evans, A. E., Columbus.
Evans, G. B., Dayton.
Evans, O., Franklin.
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Faber, C. A., Toledo.
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Fauster, J. U., Archibald.
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Fisher, H., Lebanon.
Fitzpatrick, T. V., Cincinnati.
Fletcher, M. H., Cincinnati.
Floyd, J. C. M., Steubenville.
Focht, Wm. H., Tiffin.
Foltz, T. H., Lima.
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Foster, G. F., Kingston Center.
Foster, E. M., Portsmouth.
Fowler S. W., Delaware.
Fox, J. F., New Philadelphia.
Fox, C. L., Kingsville.
Francis, Albert W., Ripley.
Frail, N. I., Cincinnati.
Fraunfelter, J., Canton.
French, J. M., Cincinnati.
Freiberg, A. H., Cincinnati.
Friedman, I., Cleveland.
Friedander, A., Cincinnati.
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Gaither, A., Cincinnati.
Gale, G. T., Newport.
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Gardner, G. E., Doylestown.
Gardiner, W. G., Toledo.
Gardiner, A. M., Toledo.
Gaugler, R. S., Dayton.
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Gentsch, C., Cleveland.
Geyer, H. R., Zanesville.
Gibbon, H. B., Tiffin.
Gibson, R. D., Youngstown.
Gifford, W. R., Toledo.
Gillette, W. J., Toledo.
Gilfillan, A., Russellville.
Gilliam, David Tod, Columbus.
Glenn, W. W., Hillsboro.
Goebel, Anna M., Lima.
Goode, B. P., Cincinnati.
Goodhue, G., Dayton.
Gorden, P. A., Junction City.
Gores, F. C., Cincinnati.
Goss, C. W., Lancaster.
Graefe, C., Sandusky.
Grant, J. G., Akron .
Gray, F. C., Dayton.
Gregg, Melvin, Knoxville.
Greene, L. M., Wilmington.
Greenamyer, P. S., Orville.
Groves, J. E., Uhrichsville.
Grosh, Lawrence C., Toledo.
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Gutermuth, W. C., Versailles.
Hahn, H. H., Youngstown.
Haine, W. J., West Farmington.
Haines, W. D., Cincinnati.
Halderman, S. S., Portsmouth.
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Hall, R. B., Cincinnati.
Hall, W. A., Chillicothe.
Hall, Joe A., Cincinnati.
Hamann, C. A., Cleveland.
Hamilton, W. D., Columbus.
Hamilton, C. S., Columbus.
Hamer, W. W., Bellefontaine.
Hanley, Joseph M., Chillicothe.
Haney, J. Coleman, Dalton.
Hane, C. L., Florida.
Hanna, C. U., Zanesville.
Hannum, E. S., Mantua.
Hardy, Neal, Overton.
Hartmann, G. W., Wauseon.
Hart, B. F., Marietta.
Hardy, Irene, Massillon.
Hart, Samuel, Marietta.
Hart, H. A., Wooster.
Hartinger, D. S., Middleport.
Harris, W. C., Cincinnati.
Harris, J. M., Yellow Springs.
Harrison, E. B., Napoleon.
Harmon, Julian, Warren.
Hasencamp, Oscar, Toledo.
Hathaway, H., Toledo.
Hatch, C. A., Newark.
Hatton Edgar M., Columbus.
Hattery, J. E., Celina.
Havlicek, F. J., Cleveland.
Hawley, W. H., College Corner.
Hahn, Enos, Leetonia.
Hayes, J. D., Somerset.
Heady, Jas. F., Glendale.
Henton, C. A., McCulchenville.
Hecker, E. A., New Madison.
Heckler, Frank A., Columbus.
Hedges, J. S., Mansfield.
Hedges, W. B., Delaware.
Heffner, G. W., Circleville.
Heidingsfeld, M. L., Cincinnati.
Heise, O. N., Cincinnati.
Held, Chas. E., Akron.
Hellman, F. F., Cincinnati.
Hendley, F. W., Cincinnati.
Hendrixson, H., Columbus.
Henderson, D. W., Marysville.
Hendrixson, O. P., Yellow Springs.
Hendrixon, Ola S., Columbus.
Henderson, R., Urbana.
Henry, R. H., Columbus.
Henry, A. G., North Baltimore.
Herr, A. W., Cleveland.
Herrick, H. J., Cleveland.
Herrick, H. B., Cleveland.
Hersh, E. J., McComb.
Herbst, Edward, Columbus.
Heston, Joseph Z., Amesville.
Heston, E. N., Thurston.
Hickey, Wm. H., Leipsic.
Hiestand, E. B., Kenton.
Higgins, C. H., Sonora.
Higbie, J. L., Jenera.
Hill, E. W., Sitka.
Hill, A. J., Minerva.
Hillkowitz, W., Cincinnati.
Hiner, S. B., Lima.
Hitchcock, Salathial A., Elida.
Hixson, Manford M., Continental
Hobart, J. P., Cincinnati.
Hobson, J. F., Cleveland.
Hoeltge, A., Cincinnati.
Hoff, J. W., Pomeroy.
Holliday, Wm. Wallace, Cleveland.
Holliday, B. W., Cleveland.
Hollister, G. A., Toledo.
Holston, J. G. F., Zanesville.
Holmes, C. R., Cincinnati.
Holmes, A. F., Lee.
Holt, O. P., Cincinnati.
Holman, A. W., Circleville.
Holdren, G. W., Bloomingburg.
Holcombe, C. B., Corning.
Hoover, T. C., Columbus.
Hoover, C. F., Cleveland.
Hoover, L. S., Laura.
Hoppe, H. H., Cincinnati.
Hosick, W. A., Cleveland.
Hough, W. S., Cuyahoga Falls.
Hough, C. A., Lebanon.
Hous, A. F., Cleveland.
Hous, G. W., Clayton.
House, L. F., Sinking Spring.
Howells, J. O., Bridgeport.
Howard, A. B., Cuyahoga Falls.
Howell, J. M., Dayton.
Hubbard, T., Toledo.
Hudson, J. F., Canton.
Huth, Frank C., Woodsfield.
Huffman, D. C., National Military Home.
Hughes, D. E., Delaware.
Hughes, D. C., Findlay.
Hughes, E. E., Oak Hill.
Hughey, J. W., Washington C. H.
Hulin, O. W., Greenford.
Hulick, J. W., Springfield.
Humphrey, W. H., Yellow Springs.
Humiston, W. H., Cleveland.
Hunt, A. H., Wooster.
Hurd, F. H., Dexter City.
Huyck, Emory B., Oak Harbor.
Hyde, Albert F., Shelby.
Hyde, W. H., Cleveland.
Hyndman, J. G., Cincinnati.
Ikirt, G. P., East Liverpool.
Jacobson, J. H., Toledo.
Jacobs, W. C., Akron.
Jameson, Geo. C., Oberlin.
Jamison, John Ross., Apple Creek
Jennings, G., West Milton.
Jenner, H. G., Dayton.
Jewett, H. S., Dayton.
Jewett, Geo. F., West Jefferson.
Johnson, F. L., Worthington.
Johnson, J. A., Cincinnati.
Johnstone, Alice M., Columbus.
Johnstone, A. W., Cincinnati.
Jones, I. D., Cincinnati.
Jones, Frank S., Medina.
Jones, R. E., Comer.
Jones, J. D., Cleveland.
Jones, D. J., Girard.
Judkins, W., Cincinnati.
Judkins, C. P., Cincinnati.
Junkerman, G. S., Cincinnati.
Judy, C. S., Miamasburg.
Kaestlen, S. E., Cleveland.
Kahle, R. E., Lima.
Kahler, J. F., Canton.
Kahn, Louis, Columbus.
Kefauver, C. A., Stoutsville.
Keller, T. F., Tiffin.
Keller, Lester, Ironton.
Kelley, S. W., Cleveland.
Kemp, Lucia, Bucyrus.
Kendig, E. V., Hayesville.
Kendig, W. C., Carthage.
Kent, F. M., Spring Valley.
Kerns, J. T. W., Bellaire.
Kiester, W. H., Arcanum.
King, E. Y., Richwood.
Kinnaman, Robert C., Ashland.
Kinsman, D. N., Columbus.
Kirkley, C. A., Toledo.
Kirkpatrick, O. B., Cherry Fork.
Knapp, Charles C., Zanesville.
Knight, Wm., Cincinnati.
Knight, A. L., Madisonville.
Knowlton, W. A., Cleveland.
Koehler, Max, Cincinnati.
Kofron, Joseph Vaclav, Cleveland.
Krauss, L. S., West Carrollton.
Kreider, C. L., Monroeville.
Krieger, G. L., Madisonville.
Lambert, O. A., Marietta.
Lambright, S., Lees Creek.
Landon, C. P., Westerville.
Landman, Otto, Toledo.
Larimore, F. C., Mt. Vernon.
Larkin, J. C., Hillsboro.
Lash, J. W., Chillicothe.
Lathrop, A. B., Swanton.
Latimer, J. P., Newark.
Latta, Allen F., Graysville.
Laudick, L. F., Lima.
Lawrence, Florus F., Columbus.
Lawless, J. F., Toledo.
Le Barre, J. H., Pavonia.
Leahy, M., Tiffin.
Leatherman, Frank P., Outville.
Lee, H. J., Cleveland.
Lehman, C. W., Eaton.
Lenhart, W. C., Columbus.
Linhart, Christopher P., Columbus.
Lenhart, P. J., Wauseon.
Lenhart, C. M., Zanesville.
Leonard, W. W., Akron.
Leonard, B. S., West Liberty.
Lerch, A. V., Pleasantville.
Leslie, J. M., Chillicothe.
Lewis, W. E., Cincinnati.
Lewis, Willis G., Rushville.
Lewis, Wm. C., Rushville.
Lewis, J. M., Cleveland.
Lewis, Robt. C. M., Marion.
Lichty, Milton J., Alliance.
Light, Frank, Ottawa.
Lightner, S. B., Sabina.
Lindsay, J. A., Salineville.
Lippitt, B. F., Columbus.
Lisle, John M., Columbus.
Long, John W., Bryan.
Longsworth, M. J., St. Marys.
Loney, W. Bruce, West Union.
Lorimer, Hugh F., Fair Haven.
Lottridge, W. M., Portsmouth.
[illegible] ansfield.
[illegible] imbus.
Lower, J. D., Bakersville.
Lower, W. E., Cleveland.
Lowry, J. W., Ironton.
Loyer, A. E., New Washington.
Lucas, A. O., New Washington.
Lyman, C. N., Wadsworth.
Lyle, B. F., Cincinnati.
McArthur, J. A., Mansfield.
McBride, D. W., Rainsboro.
McBurney, E., Jackson Center.
McCassey, J. H., Dayton.
McClellan, B. R., Xenia.
McClain, Jesse, Coshocton.
McClung, J. C., Leipsic.
McCurdy, John, Youngstown.
McCollum, E. J., Tiffin.
McCollum, J. O., Uhrichville.
McCoy, C. D., Kenton.
McCullough, J. A., Steubenville.
McCormick, G. D., Wamsley.
McClure, James Albert, Columbus
McCreary, Henry, New Concord.
McCullough, A. H., Mansfield.
McDougall, C. S., Athens.
McDougal, John G., New Lexington.
McGee, J. B., Cleveland.
McGlen, J. Averill, Mt. Pleasant.
McKim, Frank E., Marietta.
McKee, E. S., Cincinnati.
McMurray, A. B., Marion.
McOscar, J. R., Waterville.
Macready, Jas., Monroe.
Maerker, A. E. H., Napoleon.
Magers, Charles F., Tiffin.
Magruder, J. J., Columbus.
Maisbary, G. E., Cincinnati.
Martin, J. C., Findlay.
Martin, G. E., Anna.
Martin, T. C., Cleveland.
Markley, Lee, Georgetown.
Marsh, M. I., Cedarville.
Marshall, Geo. M., Columbus.
Marshall, D. M., Toledo.
Marquart, O. M., Osborn.
Martin, Franz S., Napoleon.
March, Edgar J., Canton.
Marchand, J. F., Canton.
Mathews, David J., Zanesville.
Mattoon, F. N., Plain City.
May, John B., New Holland.
Means, W. J., Columbus.
Means, C. S., Columbus.
Melick, W. A., Zanesville.
Merriman, M. B., Centerburg.
Meyers, C. H., Cincinnati.
Miles, F. T., Salem.
Millikin, M., Hamilton.
Millikin, B. S., Cleveland.
Miller, J. F., Port Jefferson.
Miller, M. F., Wadsworth.
Miller, Wm., Vinton.
Miller, N. C., Fostoria.
Miller, D. H., Newark.
Mills, Chas. H., Toledo.
Mills, J. T., Columbus.
Mills, D. C., New Lebanon.
Miner, A. G., Warren.
Minor, C. L., Springfield.
Mitchell, E. W., Cincinnati.
Mitchell, Giles S., Cincinnati.
Mitchell, Geo., Mansfield.
Moloney, L. A., Cincinnati.
Monosmith, O. B., Lorain.
Moninger, James H., Columbus.
Moody, M. M., Chatham.
Moore, Virgil Owen, Toledo.
Moore, C. A., Cambridge.
Moore, Wm., Lisbon.
Moore, D. L., Columbus.
Moore, T. M., Willoughby.
Moots C. W. Delphos.
Morris Frank, Columbus Grove.
Morrow, E. O., Canton.
Morrow, Edw. P., Canton.
Morehouse, G. W., Sparta.
Moss, W. F., Maineville.
Mosgrove, J. M., Urbana.
Mount, J. L., Morrow.
Morgan, J. F., Jackson.
Moxley, N. K., Ironton.
Mullen, Thos. J., New Richmond.
Mundhenk, L. R., West Alexandria.
Mundhenk, W. S., Brookville.
Murray, L. S., Medina.
Murphy, J. W., Cincinnati.
Murbach, A. J., Archibald.

Myers, J. A., Shelby.
Myers, J. E., Springfield.
Myers, N., Springfield.
Myers, Elmer G., Canton.
Nash, W. H. H., Columbus.
Neville, W. L., Roundhead.
Neil, A., Columbus.
Nelson, H. W., Steubenville.
Nessley, G. B., Grove City.
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Noble, H. E., Toledo.
Norrick, J. H., Fredericktown.
Norris, T. B., Alton.
Norris, C. E., Akron.
Nungesser, J. J., Cleveland.
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Olmstead, D. S., Millersburg.
Orr, G. B., Cincinnati.
Orton, J. J., Randolph.
Oster, L. W., Cleveland.
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Pankake, I., Frankfort.
Parker, C. B., Cleveland.
Parker, E. W., Gallipolis.
Parrish, H., Youngstown.
Paulin, N. O., Cleveland.
Pearce, Henry M., Urbana.
Pearce, E., Steubenville.
Peck, G. S., Youngstown.
Pedigo, S. E. G., Marshfield.
Pennell, W. W., Fredericktown.
Peskind, Arnold, Cleveland.
Petitt, R. R., Dayton.
Philips, W. S., Belle Centre.
Pierce, R. L., Columbus.
Platter, H. M., Columbus.
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Pontius, C. R., Fremont.
Poole, A. C., Cincinnati.
Potter, S. B., Fredericktown.
Powell, H. H., Cleveland.
Powell, W. S., Defiance.
Pratt, L. C., Bellefontaine.
Pressey, A. J., Cleveland.
Price, W. A., Cleveland.
Pritchard, L. W., Ravenna.
Probst, C. O., Columbus.
Pumphrey, Rezin J., Massillon.
Quinn, Allen T., Wilmington.
Quirk, H. W., Cleveland.
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Rambo, C. M., Zanesville.
Ramsey, Wm. T., Cambridge.
Ranchous, Walter E. M., Columbus.
Rannells, D. A., Logan.
Ransohoff, J., Cincinnati.
Rardin, J. S., Portsmouth.
Ravogli, Aug., Cincinnati.
Ray, James B., Omega.
Reamy, Thad A., Stockton.
Read, J. M., Springfield.
Reason, J. W., Hilliards.
Reed, C. A. L., Cincinnati.
Reed, C. H., Toledo.
Reed, T. J., Massillon.
Reeve, J. C. Jr., Dayton.
Reinfrank, J. H., Perrysburg.
Reinhart, J. C., Toledo.
Reynolds, J. J., Defiance.
Rhodenbaugh, N. F., Barberton.
Rhu, Auguste, Marion.
Richards, G. H. C., Cincinnati.
Richardson, A. B., Massillon.
Ricketts, E. S., Cincinnati.
Ricketts, B. M., Cincinnati.
Rice, Robert H., Fremont.
Riggs, J. U., Bryan.
Riley, J. A., Cleveland.
Robb, H., Cleveland.
Robbins, G. E., Chillicothe.
Rodges, J. H., Springfield.
Rogers, Wm. K., Columbus.
Rohrs, Henry F., Napoleon.
Root, H. A., Toledo.
Rosenwasser, M., Cleveland.
Rosengrant, T. S., Barnesville.
Ross, C. C., Columbus.
Rousch, L. F., Pomeroy.
Ruedy, Robt. E., Columbus.
Russell, G. C., Cleveland.
Russell, J. E., Mt. Vernon.
Rush, A. W., Greenville.
Sabin, T. M., Warren.
Saffin, W., Carthage.
Sager, Joseph, Celina.
Salisbury, C. W., Dayton.
Samson, W. Stanley, Lancaster.
Sanz, G., Dayton.
Sattler, E. E., Cincinnati.
Sawyer, John P., Cleveland.
Schneller, Erwin W., Columbus.
Schooley, L., Belmont.
Scheibenzuber, D. A., Dayton.
Schrote, Jas. L., Vanlue.
Scott, B. B., Mt. Vernon.
Scott, N. S., Cleveland.
Scott, X. C., Cleveland.
Seidel, R. R., Bedford.
Sewell, S. G., Greenville.
Shaw, W. E., Cincinnati.
Shannon, R. M., Piqua.
Sharp, B. M., Sidney.
Sharp, W. J., Toledo.
Sharp, Henry J., London.
Sherman, H. G., Cleveland.
Sheldon, S. B., Five Mile.
Shelton, H. P., Georgetown.
Sherrick, Abram L., Ashland.
Shie, David P., Fredericksburg.
Shriner, P. D., Columbus.
Shrieves, Elizabeth, Wilmington.
Siegelstein, L. E., Cleveland.
Silbaugh, W. H., Ashville.
Sill, E. C., Hamilton.
Silver, D. R., Sidney.
Silbaugh, J. J., Lancaster.
Sipher, J. N., Cleveland.
Sisson, David, Middleport.
Slager, J. L., Paulding.
Slocum, C. E., Defiance.
Smallwood, Francis M., Chillicothe.
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Smith, C. W., Cleveland.
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Smith, E. O., Cincinnati.
Smith, F. K., Warren.
Smith, J. T., Collinwood.
Smith, W. G., Ravenna.
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Stevenson, Titus, Cherry Fork.
Steiner, D. W., Lima.
Stephenson, Y., Georgetown.
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Stockton, Geo., Columbus.
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Straight, H. S., Cleveland.
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Stricker, L., Cincinnati.
Stueber, F. G., Lima.
Sulzer, Gustavus A., Portsmouth.
Swift, E. F., Pomeroy.
Taft, J., Cincinnati.
Tangeman, C. W., Cincinnati.
Tate, M. A., Cincinnati.
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Taylor, Van Deveer, Cincinnati.
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Thompson, W. R., Troy.
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Thompson, Chas. E., Urbana.
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Todd, W. H., Columbus.
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Trimble, R. T., New Vienna.
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Van Winkle, J. Alvin, Bourneville.
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Walker, Edw. W., Cincinnati.
Walker, A. B., Canton.
Walker, Della M., Salem.
Walker, W. O., Cincinnati.
Walter, O., Bethany.
Wallace, Abram H., Avondale.
Wanzer, C. M., Zanesfield.
Ward, W. A., Conneaut.
Wardlow, Y., Columbus.
Warner, Frank, Columbus.
Warner, O. J., Wooster.
Waters, G. M., Columbus.
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Weber, W. C., Cleveland.
Weeks, O. W., Marion.
Weitz, J. A., Montpelier.
Wellons, J. W., Barnesville.
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Westbrook, A. E., Ashley.
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Whitacre, Horace J., Cincinnati.
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Wilbur, A. M., West Unity.
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Williams, Thomas B., Cleveland.
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Wilson, Sam S., Xenia.
Winders, F., Columbus.
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Wintermute, G. J. C., Celina.
Wire, G. W., Wilmington.
Wirt, Wm. H., Cleveland.
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Wise, S. P., Millersburg.
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Woessner, N. E., Huron.
Wolfe, A. C., Columbus.
Wolfstein, D. I., Cincinnati.
Woods, E., Toledo.
Woodruff, L., Columbus.
Woodward, W. R., Cincinnati.
Woodworth, W. H., Delaware
Workman, J. C., Uniontown.
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Wright, J. W., Columbus.
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Wright, T. M., Troy.
Wright, J. H., New Lexington.
Wright, J. B., Convoy.
Wright, J. A., Toledo.
Youmans, T. G., Columbus.
Young, J. P., Empire.
Zenner, P., Cincinnati.
Zimmerman, H., Youngstown.
Zinke, E. G., Cincinnati.
Zopfi, W. J., Findlay.

OKLAHOMA TERRITORY.

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Bacon, J. E., Enid.
Bobs, C. S., Norman.
Capshaw, M. T. J., Norman.
Collelmo, U. A. D., Watonga.
Ezell, W. D., New Kirk.
Fagaines, H. M., Chandler.
Hamilton, B. F., Shawnee.
Harriman, B. F., Chandler.
Hues, C. P., Choctaw.
McKeeby, G. E., Guthrie.
McMurtry, Milton, Oklahoma City.
Michael, L. F., Ponca City.
Morton, G., O[illegible] City.
Nisbett, B. F.,
Perisho, J. A., Luther.
Reily, L. A., Oklahoma City.
Rolater, J. B., Oklahoma City.
Shoemaker, F., Ft. Sill.
Smith, L. T., Lexington.
Stone, I. G., Kingfisher.
Thacker, R. E., Lexington.
Wallace, J. S., Hawley.

OREGON.

Amos, W. F., Portland.
Anderson, E. M., Sumpter.
Bailey, F. A., Hillsboro.
Beckman, O. H., Astoria.
Belknap, V. C., Prairie City.
Binswanger, O. S., Portland.
Boys, Wm., Portland.
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Byrd, W. H., Salem.
Coe, H. W., Portland.
Cornelius, C. W., Portland.
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Dodson, O. M., Baker City.
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Hall, C. H., Salem.
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McDaniel, E. B., Baker City.
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Maston, G. W., Albany.
McCormac, J. T., Marshfield.
Mackenzie, A. D., Portland.
Miracle, W. T., Richland.
Moore, A. W., Portland.
Moore, J. S., Grants Pass.
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Pickel, Elijah B., Medford.
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Smith, A. C., Portland.
Stott, John S., Gervais.
Strong, Curtis, Portland.
Tower, C. W., Marshfield.
Wait, J. B., Medford.
Wall, Geo., Cottage Grove.
Whitney-Cardwell, Mae H., Portland.

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Allis, O. H., Philadelphia.
Allen, M. E., Philadelphia.
Allyn, H. B., Philadelphia.
Anders, H. S., Philadelphia.
Anders, J. M., Philadelphia.
Angney, W. M., Philadelphia.
Appledorn, E. F., Philadelphia.
Ash, H. St. Clair, Philadelphia.
Ashhurst, J., Jr., Philadelphia.
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Ashton, W. Easterly, Phila.
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Baker, Geo. Fales, Philadelphia.
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Baldwin, Kate W., Philadelphia.
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Banes, S. I., Philadelphia.
Barton, J. M., Philadelphia.
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Baxter, H. F., Philadelphia.
Beates, H., Jr., Philadelphia.
Belber, M. M., Philadelphia.
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Benner, H. D., Philadelphia.
Bennett, W. H., Philadelphia.
Bernardy, E. P., Philadelphia.
Bernheim, A., Philadelphia.
Bergey, D. H., Philadelphia.
Berens, B., Philadelphia.
Bloom, H. C., Philadelphia.
Bochroch, M. H., Philadelphia.
Bodamer, Geo. A., Philadelphia.
Roger, J. A., [illegible]delphi
Boston, L. [illegible]
Bowen, C. [illegible]

Boyd, G. M., Philadelphia.
Brady, F., Philadelphia.
Bradford, T. H., Philadelphia.
Bready, C. R., Philadelphia.
Brick, J. C., Philadelphia.
Brinton, J. H., Philadelphia.
Brinkmann, L., Philadelphia.
Brown, J. M., Philadelphia.
Burke, J. J., Philadelphia.
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Burr, C. W., Philadelphia.
Cadwallader, C. E., Philadelphia.
Campbell, H. T., Philadelphia.
Carpenter, J. T., Jr., Phila.
Cattell, H. W., Philadelphia.
Chase, R. H., Philadelphia.
Chance, B. K., Philadelphia.
Chestnut, J. H. W., Philadelphia.
Clark, L. S., Philadelphia.
Clark, G. G., Philadelphia.
Clark, J. G., Philadelphia.
Claxton, C., Philadelphia.
Codman, C. A., Philadelphia.
Cohen, S. Solis, Philadelphia.
Cohen, J. Solis, Philadelphia.
Coley, T. L., Philadelphia.
Cooper, J. C., Philadelphia.
Corson, G. R. S., Philadelphia.
Crandall, T. V., Philadelphia.
Croskey, J. W., Philadelphia.
Cruice, R. B., Philadelphia.
Cryer, M. H., Philadelphia.
Curtin, R. G., Philadelphia.
Custer, D. D., Philadelphia.
DaCosta, John C., Philadelphia.
DaCosta, J. Chalmers, Philadelphia.
Daland, Judson, Philadelphia.
Davis, G. G., Philadelphia.
Davis, E. P., Philadelphia.
Dean, H. J., Philadelphia.
Deaver, H. C. Philadelphia.
Deaver, Jno. Blair, Philadelphia.
Dercum, F. X., Philadelphia.
Dercum, Clara T., Philadelphia.
DeSchweinitz, G. E., Phila.
Donahay, Dewitt S., Phila.
Dick, J. W., Philadelphia.
Donnellan, P. S., Philadelphia.
Dorland, W. A. W., Philadelphia.
Downes, A. J., Philadelphia.
Drysdale, Thos. M., Philadelphia.
Duer, E. L., Philadelphia.
Dulles, C. W., Philadelphia.
Dunmire, G. B., Philadelphia.
Dunglison, R. J., Philadelphia.
Eckman, P. N., Philadelphia.
Egbert, S., Philadelphia.
Elder, F. H., Philadelphia.
Ely, T. C., Philadelphia.
Erck, T. A., Philadelphia.
Eshner, A. A., Philadelphia.
Faries, R., Philadelphia.
Farr, W. W., Philadelphia.
Feldstein, A., Philadelphia.
Fenton, T. H., Philadelphia.
Fisher, F., Philadelphia.
Fisher, Mary, Philadelphia.
Fisher, J. M., Philadelphia.
Fleisher, Rebecca, Philadelphia.
Flexner, Simon, Philadelphia.
Forbes, W. S., Philadelphia.
Fox, L. Webster, Philadelphia.
Fox, W. W., Philadelphia.
Frankish, John K., Philadelphia.
Franklin, M., Philadelphia.
Franklin, C. P., Philadelphia.
Frazier, C. H., Philadelphia.
French, M. S., Philadelphia.
Freeman, Walter J., Phila.
Freund, H. H., Philadelphia.
Fricke, A., Philadelphia.
Fribis, Geo., Philadelphia.
Fulton, T. C., Philadelphia.
Fussell, M. H., Philadelphia.
Getchell, F. H., Philadelphia.
Gibb, Jos. S., Philadelphia.
Gibbens, J. H., Philadelphia.
Gillespie, J. S., Philadelphia.
Gittelson, S. J., Philadelphia.
Gleason, E. B., Philadelphia.
Goebel, G., Philadelphia.
Goodwin, A. Helena, Philadelphia.
Gould, George M., Philadelphia.
Grayson, C. P., Philadelphia.
Graham, E. E., Philadelphia.
Greenwald, D. F., Philadelphia.
Grier, M. J., Philadelphia.
Griffith, J. P. C., *Philadelphia.*
Groff, C. A., Philadelphia.
Grove, J. H., Philadelphia.
Hale, G., Philadelphia.
Hammond, L. J., Philadelphia.
Hammond, F. C., Philadelphia.
Hamill, S. M., Philadelphia.
Hansell, H. F., Philadelphia.
Hare, Hobart A., Philadelphia.
Harlan, G. C., Philadelphia.
Harris, H. F., Philadelphia.
Harte, R. H., Philadelphia.
Hartzell, M. B., Philadelphia.
Hearne, W. J., Philadelphia.
Hearn, C. S., Philadelphia.
Heisler, J. C., Philadelphia.
Henry, F. P., Philadelphia.
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Hickman, N., Philadelphia.
Higbee, W. S., Philadelphia.
Hill, G. A., Philadelphia.
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Hinsdale, Guy, Philadelphia.
Hirst, Barton C., Philadelphia.
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Hughes, W. E., Philadelphia.
Hughes, D. E., Philadelphia.
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Knight, T. H., Philadelphia.
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Kreass, S. S., Philadelphia.
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Le Conte, R. G., Philadelphia.
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Stelwagon, H. W., Philadelphia.
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Taylor, A. E., Philadelphia.
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Thomson, A. G., Philadelphia.
Thomas, C. H., Philadelphia.
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Thornton, E. Q., Philadelphia.
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Van Sant, E. L., Philadelphia.
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Warder, W. H., Philadelphia.
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Weintraub, S. Louise, Philadelphia.
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Wells, W. H., Philadelphia.
Wentz, B. F., Philadelphia.
West, J. W., Philadelphia.
West, S. L., Philadelphia.
Wharton, H. R., Philadelphia.
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White, Frank, Philadelphia.
Whiting, A. D., Philadelphia.
Wilson, H. A., Philadelphia.
Wilson, J. C., Philadelphia.
Wilson, S. M., Philadelphia.
Willard, De Forest, Philadelphia.
Wilson, W. Reynolds, Philadelphia.
Winder, W. G., Philadelphia.
Witmer, Albert, Philadelphia.
Wolfe, Samuel, Philadelphia.
Woldert, E. A., Philadelphia.
Wolff, L., Philadelphia.
Wooodbury, F., Philadelphia.
Wood, Alf C., Philadelphia.
Wood, H. C., Philadelphia.
Woods, W. V., Philadelphia.
Woods, D. F., Philadelphia.
Woods, M., Philadelphia.
Wray, W. S., Philadelphia.
Yeager, F. N., Philadelphia.
Ziegler, S. L., Philadelphia.
Ziegler, W. M. L., Philadelphia.
Zimmerman, M. W., Philadelphia
Zuill, W. L., Philadelphia.

Pittsburg.

Allison, R. W., Pittsburg.
Asdale, W. J., Pittsburg.
Ankrim, L. F., Pittsburg.
Ayres, S., Pittsburg.
Beach, W. M., Pittsburg.
Beatty, R. C., Pittsburg.
Blachly D. L., Pittsburg.
Blumberg, A., Pittsburg.
Borland, E. B., Pittsburg.
Boyce, J. W., Pittsburg.
Burroughs, H. S., Pittsburg.
Cameron, M. C., Pittsburg.
Chessrown, A. V., Pittsburg.
Christy, T. C., Pittsburg.
Clarke, R. C., Pittsburg.
Cunningham, Daken W., Pittsburg.
Daly, W. H., Pittsburg.
Davis, T. D., Pittsburg.
Duft, J. Milton, Pittsburg.
Dunn, J. C., Pittsburg.
Eaton, P. J., Pittsburg.
Ellsworth, T. A. Rex, Pittsburg.
English, W. T., Pittsburg.
Ewing, W. Brown, Pittsburg.
Emmerling, K., Pittsburg.
Finkelpearl, H., Pittsburg.
Foster, W. S., Pittsburg.
Gardner, E. Roy, Pittsburg.
Green, J. J., Pittsburg.
Hallock, Wm. E., Pittsburg.
Hersman, C. C., Pittsburg.
Herron, R. G., Pittsburg.
Hiett, G. W., Pittsburg.
Hopkins, A. J., Pittsburg.
Hoffman, J. H., Pittsburg.
Huselton, W. S., Pittsburg.
Jackson, C. Q., Pittsburg.
Johnston, J. I., Pittsburg.
Kelly, G. M., Pittsburg.
Kerr, J. P., Pittsburg.
Kirk, Wm. H., Pittsburg.
Knifller, O., Pittsburg.
Koeller, F., Pittsburg.
Koenig, A., Pittsburg.
Lange J. Chris, Pittsburg.
Lewin, A. L., Pittsburg.
Lichty, J. A., Pittsburg.
Lippincott, J. A., Pittsburg.
Litchfield, L., Pittsburg.
Look, H. A., Pittsburg.
Macfarlane, J. W., Pittsburg.
McCandless, J. G., Pittsburg.
McCurdy, S. L., Pittsburg.
McKennan, T. M. T., Pittsburg.
McKelvey, W. H., Pittsburg.
McKibben, S. H., Pittsburg.
McLenahan, T. M., Pittsburg.
McNeil, G. W., Pittsburg.
Mayer, Edward E., Pittsburg.
Milligan, J. D., Pittsburg.
Montgomery, E. S., Pittsburg.
Morrow, J. C., Pittsburg.
Munford, J. R., Pittsburg.
Norris, W. J., Pittsburg.
O'Brien, W. D., Pittsburg.
Patterson, S., Pittsburg.
Petit, Albert, Pittsburg.
Pollock, W. F., Pittsburg.
Poole, Richard E., Pittsburg.
Rahauser, G. G., Pittsburg.
Ryall, T. M., Pittsburg.
Sahm, W. K. T., Pittsburg.
Sanes, K. I., Pittsburg.
Shaw, W. C., Pittsburg.
Small, E. H., Pittsburg.
Snively, W., Pittsburg.
Spencer, J. A., Pittsburg.
Sterrett, J. K., Pittsburg.
Sterrett, J. P., Pittsburg.
Stewart, R. W., Pittsburg.

Stieren, E., Pittsburg.
Stone, W. L., Pittsburg.
Sweeney, G. B., Pittsburg.
Thomas, J. D., Pittsburg.
Veeder, A. T., Pittsburg.
Vincent, J. R., Pittsburg.
Ward, M. R., Pittsburg.
Weber, W. H., Pittsburg.
Werder, X. O., Pittsburg.
Williamson, J. H., Pittsburg.
Williams, Roger, Pittsburg.
Willetts, Jos. E., Pittsburg.

Adams, W. H., Danville.
Adams, C. M., Williamsport.
Adair, W. G., Allegheny.
Albright, J. W., Muncy.
Alexander, H. M., Marietta.
Allison, Robt. H., Ardmore.
Ambrose, J. T., Ligonier.
Anderson, Jos. W., Ardmore.
Ansley, W. B., Saltsburg.
Apple, S. S., Easton.
Arment, S. B., Bloomsburg.
Arnold, H. A., Ardmore.
Armstrong, R., Lock Haven.
Atwell, J. C., Butler.
Bacon, W. F., York.
Bacon, John, Andalusia.
Backenstoe, M. J., Emaus.
Bachman, C. W., Reading.
Bahn, G. W., Spring Forge.
Bailey, W. J., Leisenring.
Balmer, A. F., Brookville.
Ball, F. P., Lock Haven.
Ball, M. V., Warren.
Banks, C. W., Huntingdon.
Bankes, C. W., Middleport.
Barkey, P., Erie.
Barney, Delbert, Wilkesbarre.
Barr, G. W., Titusville.
Bartho, B. F., Mt. Carmel.
Barker, Perley N., Troy.
Barr, J. C., Mars.
Barr, J. A., McKees Rocks.
Bates, E., Lancaster.
Batton, J. A., Uniontown.
Batten, J. M., Downingtown.
Baugh, A. W., Paoli.
Beaver, D. B. D., Reading.
Becker, J. W., Reading.
Beddoe, B. G., Scranton.
Bell, G. Franklin, Newberry.
Berlin, J. O., Bath Postoffice.
Bernstein, A. H., Scranton.
Berntheiz, G. W., Columbia.
Bertolet, J. M., Reading.
Bevier, A. B., Ridgway.
Beyer, W. F., Punxsutawney.
Bickell, S. E., Jersey Shore.
Biddle, J. C., Fountain Springs.
Biehn, A. C., Richland Centre.
Bill, G. E., Harrisburg.
Birdsall, S., Susquehanna.
Birch, T. J., Port Carbon.
Bishop, W. T., Derry Station.
Bishop, S. S., Carlisle.
Bitzer, N. E., Lancaster.
Bittinger, J. H., Hanover.
Blairsdell, I. C., Wilmore.
Blaisdell, W. S., Punxsutawney.
Blackburn, J. P., McKeesport.
Bleller, C. A., Frackville.
Blose, J. U., Altoona.
Boal, G. Y., Baden.
Bockius, S. A., Columbia.
Boggs, J. C., Allegheny.
Boggs, A. N., Abington.
Bolenius, R. M., Lancaster.
Bonnaffon, S. A., Williamsport.
Bonbrake, H. X., Chambersburg.
Born, R. H., Montoursville.
Borst, G. C., Newville.
Botkin, L. C., Burgettstown.
Boucek, A. J., Allegheny.
Bovard, F. J., Tionesta.
Bower, J. L., Reading.
Bowman, A. G., Lancaster.
Bowman, J. W., Lemoyne.
Boyd, G. J., Ellwood City.
Brendle, G. F., Mahanoy City.
Brenholtz, W. S., Lancaster.
Brown, Ellen E., Chester.
Brown, G. C., Dunmore.
Bronson, A. F., Girardville.
Brotherlin, H. H., Hollidaysburg.
Brumbaugh, A. B., Huntingdon.
Bruner, J. W., Bloomsburg.
Bucher, J. R., Lebanon.
Bucher, H., Reading.
Buckman, E. U., Wilkesbarre.
Buehler, W. S., Wernersville.
Burket, G. W., Tyrone.
Burns, R., Scranton.
Byles, F. G., Fredonia.
Caldwell, J. R., Marcus Hook.
Callen, J. S., Shenandoah.
Campbell, C., Petersburg.
Campbell, W. St. Clair, Rochester Mills.
Carmany, H. S., Roxborough.
Carrell, J. B., Hatboro.
Cass, J. T., West Lebanon.
Cassel, G. L., Lancaster.
Cawley, M. F., Allentown.
Chaapel, V. P., Newberry.
Channell, J. C., Wrightsville.
Chaffee, Francis, Towanda.
Chamberlain, J. W., Wyalusing.
Cherry, E. T., Altoona.
Chritzman, H. G., Welsh Run.
Christian, J. L., Lopez.
Clagett, L. S., Blairsville.
Clover, W. M., Knox.
Coble, J. W., Tamaqua.
Cochran, J. L., Star Junction.
Coffman, John J., Scotland.
Connell, A. J., Scranton.
Cooper, W. R., Point Pleasant.
Coope, A. F., Oil City.
Cope, Thomas, Nazareth.
Coover, E. H., Harrisburg.
Coover, F. W., Harrisburg.
Corson, B. M., Norristown.
Corson, P. H., Plymouth Meeting
Corson, J. M., Chatham Run.
Cort, J. C., Evans City.
Conklin, G., Orwell.
Coulter, O. W., Oil City.
Councill, M. S., Bryn Mawr.
Cox, A. P., Coraopolis.
Craig, Alex, Columbia.
Craig, Alex R., Columbia.
Crawford, John K., Cooperstown.
Crawford, S. N., Columbia.
Crewitt, J. A., Newtown.
Crombie, J. B., Allegheny.
Cross, G. D., Chester.
Crossman, E. O., Markleton.
Culp, J. F., Steelton.
Curwen, John, Warren.
Dale, J. Y., Lemont.
Dalton, W. R. I., Delaware Water Gap.
Daubenspeck, C. F., Cochranton.
Davis, A. C., Creighton.
Davis, F. F., South Oil City.
Davis, M. L., Lancaster.
Davis, David R., Lansford.
Davis, S., Milton.
Davidson, J. H., Perryopolis.
De Venney, J. C., Harrisburg.
Dean, G. E., Scranton.
De Laney, W. E., Slate Run.
Dennis, D. N., Erie.
Detweiler, B. H., Williamsport.
Detweiler, Thos. C., Lancaster.
Devilbiss, H. C., Chambersburg.
Dice, Laura J., York.
Dickinson, B. T., Steelton.
Diltz, H. C., Derry Station.
Donaldson, J. B., Canonsburg.
Dougherty, M. M., Mechanicsburg.
Dougherty, A. F., Ashley.
Drake, H. H., Norristown.
Dudley, W. H., Easton.
Dunn, I. J., Erie.
Dunder, A. B., Reading.
Eastman, T. N., Uniontown.
Edwards, H. T., South Bethlehem.
Egbert, J. C., Wayne.
Ehler, J. A., Lancaster.
Eisenberg, P. Y., Norristown.
Eisenberg, J. L., Norristown.
Elgin, W. F., Glenolden.
Ellenberger, J. W., Harrisburg.
Emery, B. A., Dunningville.
Engle, O. C., New Sheffield.
Erdman, W. B., Macungie.
Erdman, W. S., Buckingham.
Ermentrout, S. C., Reading.
Estes, W. L., South Bethlehem.
Evans, W. K., Chester.
Eves, J. S., New London.
Ewing, R. B., West Grove.
Farquhar, Q. C., California.
Faulds, W. H., Luzerne.
Fay, John, Altoona.
Feick, J. F., Reading.
Feltwell, A. L., Altoona.
Ferguson, F. U., Gallitzin.
Fetter, W. H., Scottdale.
Findley, W. M., Altoona.
Flener, L. A., Delano.
Forrester, J., Erie.
Forster, Wm., Oil City.
Foringer, H. H., Erie.
Forwood, J. L., Chester.
Foster, W. R., Crafton.
Foster, C. E., Honesdale.
Foss, W. B., Ashley.
Foulke, R. C., New Hope.
Frank, Geo. S., Millheim.
Frankhauser, W., Reading.
Free, S. M., Du Bois.
Frentz, O. H., Quakertown.
Frey, C. L., Scranton.
Fronfield, J. H., Media.
Frontz, H. C., Huntingdon.
Fulkerson, B. J., Tyrone.
Fulton, J., New London.
Funk, D. S., Harrisburg.
Fussell, L. L., Media.
Gable, I. C., York.
Gaddis, L. S., Uniontown.
Gale, Constantine, New Brighton.
Gallagher, G. W., New Haven.
Gallager, H., Glenolden.
Garthwaite, I. S., Webster Mills.
Garey, H., Berlin.
Gardiner, H. D., Scranton.
Gardner, E. R., Montrose.
Garvey, J. B., Dunmore.
Gass, Jas., Sheffield.
Gates, L. M., Scranton.
Gemmill, J. M. Jr., Tyrone.
Gerhard, J. Z., Harrisburg.
Gerlack, Ella M., Huntingdon.
Getters, J. P., Belleville.
Gibbs, L. H., Hyde Park.
Gibbons, R. H., Scranton.
Gifford, U. G., Avondale.
Gilliford, R. H., Allegheny.
Gilbert, S. F., Elysburg.
Gloninger, A. B., Lebanon.
Glover, J. P., Altoona.
Gordon, J. M., Bellevernon.
Gray, S. G., Landisville.
Grayson, T. W., Washington.
Graydon, A., Homestead.
Greenfield, Robert N., Penn Line.
Green, E. M., Easton.
Groff, J. W., Harleysville.
Groff, J. E., Doylestown.
Groom, E. J., Bristol.
Guilford, W. M., Lebanon.
Guiher, H. B., Smithfield.
Guth, M. S., Warren.
Guthrie, G. W., Wilkesbarre.
Hackney, J. S., Uniontown.
Hadfield, E. J., Phoenixville.
Hagenbuch, J. H., Mahanoy City.
Halberstadt, A., Pottsville.
Hall, F. L., Erie.
Hamilton, B. G., Emlenton.
Hamilton, H., Harrisburg.
Hammer, Robt. B., Greensburg.
Hamaker, W. D., Meadville.
Hanna, D. B., Stoneboro.
Harding, I. L., Blairsville.
Harmon, G. G., Huntingdon.
Hartsell, W. H., Allentown.
Harnish, C. A., Alexandria.
Harvey, E. M., Media.
Harvey, O. F., Wilkesbarre.
Hartman, G. F., Port Kennedy.
Haskin, H. P., Williamsport.
Hassenplug, H. G., Lancaster.
Haughwout, B., Portland.
Headland, M. E., Butler.
Heffner, O. C., Pottstown.
Heilman, S. P., Heilman Dale.
Helm, C. E., Bart.
Henry, Wm. P. S., Everett.
Hermany, P., Mahanoy City.
Herr, M. L., Lancaster.
Herr, A. J., Lancaster.
Herr, W. H., Lancaster.
Herrmann, M. E., Dushore.
Hill, S. S., Wernersville.
Hillis, R. J., Altoona.
Hinkle, F., Columbia.
Hitzrot, H. W., McKeesport.
Hoffman, J. Y., Reading.
Hoffman, C. I., Morea Colliery.
Hogue, J. H., Altoona.
Holtzapple, G. E., York.
Holcomb, J. T., Athens.
Hope, R. M., Mercer.
Horne, J. A., Mauch Chunk.
Horner, M. W., Mt. Pleasant.
Hornbeck, J. L., Catasauqua.
Howell, J. T., Wilkesbarre.
Huff, S. M., Milesburg.
Hughes, J. W., Latrobe.
Hughes, C. W., Eleanor.
Hull, A. B., Montgomery Station.
Humphrey, W. J., Union City.
Hummel, C. C., Mechanicsburg.
Hunt, R. S., Brookville.
Hunter, W. L., Turtle Creek.
Hunsberger, J. N., S. Kippack.
Hunter, John R., Lewiston.
Huston, Jos. H., Clintondale.
Hyson, J. M., Red Lion.
Iams, J. T., Waynesburgh.
Irwin, W. U., Julian.
Irwin, T. S., Christiana.
Irwin, J. B., Washington.
Iseman, C. M., Ellwood City.
James, E. H., Harrisburg.
James, T. A., Ashley.
Jefferis, D. W., Chester.
Jenkins, D. H., Scranton.
Jessop, R., York.
John, J. S., Bloomsburg.
Johnson, N. L., Williamsport.
Jones, W. H., Harrisburg.
Jones, H. H., Codorus.
Jones, F. C., Ebensburg.
Jones, M. O., Allegheny.
Kalbach, A. M., Lancaster.
Kane, J. J., Norristown.
Kane, T. L., Kane.
Kane, Evan O'Neil, Kane.
Kane, Elizabeth D., Kane.
Kauffman, Leslie M., Kauffman.
Kauffman, W. L., Lancaster.
Kay, T. W., Scranton.
Keath, J. W., Shaferstown.
Keim, C. J., Catasauqua.
Kelly, G. M., Washington.
Keller, D. H., Bangor.
Kendall, E. E., Waterford.
Kerchner, B. L., Dalmatia.
Kerr, C. S., Emlenton.
Kerr, E., Downington.
Kern, A. J., Slatington.
Kibler, C. B., Corry.
Kimble, Z. E., Williamsport.
Kimmell, H. S., Somerset.
Kinnard, J. W., Lancaster City.
Kistler, O. F., Wilkesbarre.
Kirk, J. A., Carrick.
Kline, W. J. K., Greensburg.
Kline, L. B., Catawissa.
Klingensmith, I. P., Blairsville.
Klinedinst J. F., ork.
Klump, J. A., Williamsport.
Knapp, C. P., Wyoming.
Kneedler, Geo. C., Ruffsdale.
Knerr, J. W. H., Easton.
Knipe, J. O., Norristown.
Knox, W. F., McKeesport.
Kohler, J. B., New Holland.
Koser, J. J., Shippensburg.
Kotz, A. L., Easton.
Kress, P. J., Allentown.
Kriebel, E. G., Worcester.
Krum, A. G., Erie.
Kunkel, H., Kingston.
LaClair, C. H., Uniontown.
Lacock, S. A., Canonsburg.
Langton, D. J., Shenandoah.
Langfitt, W. J., Allegheny.
Langsdorff, Hilda H., Carlisle.
Lanahan, F. P., Wilkesbarre.
Lathrop, W., Hazleton.
Laubach, F. M., Weaversville.
Leaman, B., Leaman Place.
Leadenham, J. W., Franklin.
Linebaugh, H. W., New Cumberland.
Lineweaver, J. K., Columbia.
Linn, G. A., Monongahela City.
Linville, M., New Castle.
Little, G., Tamaqua.
Livingston, J. B., West Middlesex.
Livingston, T. M., Columbia.
Logue, Wm. Porter, Williamsport.
Longshore, W. R., Audenried.
Longaker, D., Reading.
Long, Chas., Wilkesbarre.
Long, W. P., Weatherly.
Long, A. A., York.
Long, F. F., Chester.
Love, J. K., Yardley.
Lovett, H., Langhorne.
Lowman, W. B., Johnstown.
Lowman, N. B., Belle Vernon.
Lowrie, W. L., Tyrone.
Luckie, S. B., Chester.
Lynch, J. A., Cresson.
Mabon, J. S., Allegheny.
MacGowan, H., Harrisburg.
McAllister, J. B., Harrisburg.
McAllister, J. CC., Ridgwawy.
McBurney, C. F., Altoona.
McCafferty, G. W., Jr., Norristown.
McKenna, J. A., Lansdowne.
McClellan, R. P. Jr., *Irwin.*
McClenathon, J. C., Connelsville.
McConnell, H. S., New Brighton.
McConnell, C. W., Altoona.
McCormick, D. K., Lancaster.
McCormick, H. G., Williamsport.
McCready, R. J., Allegheny.
McElrath, J. B., Jackson Center.
McFaddin, C. J., Pittston.
McFarland, J., Germantown.
McHenry, M., Benton.
McHenry, R. F., Marion Center.
McIlhaney, W. H., S. Easton.
McIntire, Chas., Easton.
McKee, T. K., Chicora.
McKinnon, M. J., York.
McKee F. L., Plymouth.
McKean, J. A., Washington.
McKenzie, Wm., Conshohocken.
McMullen, U. H., Merrittstown.
McNaugher, Sam'l F., Allegheny.
Madina, J. D., Reading.
Magoffin, M. M., Mercer.
Muhlenberg, W. F., Reading.
Mahon, J. B., Pittston.
Maison, R. S., Chester.
Mann, C. H., Bridgeport.
Martin, G., Conemaugh.

Martin, W.. Bristol.
Martin, C. S.. Allentown.
Marsh, E. B., Greensburg.
Marsh, F. L., Mt. Pleasant.
Marsh, W. A., Mt. Pleasant.
Marbourg, E. L. W., Johnstown.
Marshall, W. N., Aspinwall.
Maurer, J. M., Shamokin.
May, J. C., Manchester.
Means, C. S., Towanda.
Mears, D. W., Scranton.
Melsheimer, J. A., Hanover.
Michler, H. D., Easton.
Miesse, Kate D., Easton.
Miller, D. P., Huntingdon.
Miller, E. L., Johnstown.
Miller, A. M., Bird-in-Hand.
Miller, E. S., Altoona.
Miller, E. M., Beavertown.
Miller, DeWitt C. R., Mason and Dixon.
Miller, M. L., Susquehanna.
Miller, O. L., Allegheny.
Miller, Wm. G., Norristown.
Miller, E. J., Intercourse.
Miller, J. S., York.
Miller, C. D., Pottsville.
Miller, A. J., Portage.
Milliken, D. B., Landisburg.
Millikin, T. W.. Waynesburg.
Miles, R. G., New Castle.
Mish, Geo. F., Middletown.
Mitchell-Green, Mary V., Swathmore.
Montgomery, P. B., Chambersburg.
Montgomery, Jas. R., Buck Horn.
Montelius, R. W.. Mt. Carmel.
Monks, F. C., Kittanning.
Moon, A. S., Beaver Falls.
Moore, J. W. F., Butler.
Morrow, J. W.. Tionesta.
Mowery, Henry A., Marietta.
Mowry, W. B., Allegheny.
Mullhaupt, A., St. Marys.
Murray, V. A., Patton.
Murray, J. A., Clearfield.
Murdock, J. M.. Polk.
Musser, E. Chas., Aaronsburgh.
Musser, J. H., Lampeter.
Nason, W. A., Roaring Spring.
Neff, E. E., Altoona.
Newfield, M. A., Chester.
Nevins, J., Jersey Shore.
Nevling, F. S., Clearfield.
Newcome, W. C., Big Run.
Newton, F. G., Towanda.
Newlin, H. S., McKeesport.
Newman, O. A., Harrisburg.
Nicholson, Wm. A., Franklin.
Niles, J. S., Carbondale.
Reeve, J. C.. Jr.. Dayton.
Offutt, L., Greensburg.
Oburn, A. S., Altoona.
Oenslager, J. Jr., Harrisburg.
O'Neal, J. W. C., Gettysburg.
Orris, H. O., Newport.
Orth, H. L., Harrisburg.
Osborne, R. H., Morrisville.
Ott, C. H., Sayre.
Ott, J. J., Pleasant Valley.
Palmer, C. F., Chambersburg.
Palmer, W. R., Johnsonburg.
Park, J. W., Harrisburg.
Parker, Geo. A., Southampton.
Parker, A. G. B., Gap.
Patton, J. M., Neale.
Peck, D. J.. Susquehanna.
Phillips, E., New Haven.
Pillow, R. H., Butler.
Pilcher, J. E., Carlisle.
Portzer, F. L., Greensburg.
Pownall, E. E.. Richboro.
Pratt, U. M., Mt. Pleasant.
Preston, G. H.. Kane.
Prevost, C. W., Pittston.
Pursell, M.. Bristol.
Putnam, B. M.. North East.
Putt, Maurice, Oberlin.
Pyle, W. T.. Swissvale.
Rahter, C. A., Harrisburg.
Raker, F. D.. Shamokin.
Ramsey, R. W., Chambersburg.
Rankin, D. N., Allegheny.
Randenbush, A. S., Reading.
Rea, C.. York.
Read, C. Hubert, Tullytown.
Read, F. B.. Osceola Mills.
Read, L. W.. Norristown.
Reber, W. M., Bloomsburg.
Reeser, H. S., Reading.
Reel, Ida V., Coatesville.
Reichard, C. C., Brownsville.
Reilly, P. C., Williamsport.
Renn, P. H., Sunbury.
Retten, D. P., Coatesville.
Reynolds, C. S.. Kennett Square.
Rich, T. C., Williamsport.
Richard, P. L.. Allentown.
Richards, Emma E., Norristown.
Richardson, Wm. L., Montrose.
Riddle, W. V., Burgettstown.
Riegel, H. H., Catasauqua.
Rigg, J. E., Wilkinsburg.
Riggs, E. S., Washington.
Ritchey, J. A., Oil City.
Roberts, C. J., Warren Tavern.
Robertson, W. M.. Warren.
Rockwell, L. D., Union City.
Roebuck, P. A., Lititz.
Rogers, L. L., Kingston.
Roland, O., Lancaster.
Ross, J. D., Williamsburg.
Ross, J. F.. Clarion.
Ross, E. G.. Scranton.
Ross, W. S.. Altoona.
Roth, V. T., Pottsville.
Rowe, J. W., Altoona.
Russ, E. J., St. Marys.
Russell, E. A., Fleming.
Russell, A. L., Midway.
Russell, W. J., Bradford.
Rutledge, A. T., Blairsville.
Rutherford, J. F., Bishop.
St. Clair, Jno. M., Indiana.
Saul, C. H., Steelton.
Schnabel, E. D., Bethlehem.
Schad, Edith Harris, Bellefonte.
Schaff, C. H.. Media.
Schaeffer, C. D., Allentown.
Schoonmaker, I. R., Sayre.
Schill, F., Johnstown.
Schill, F., Jr., Johnstown.
Scott, S. H., Coatesville.
Scott, J. E., New Hope.
Seaman, J. K., Reading.
Seem, A. A.. Bangor.
Seitz, J. L., Harrisburg.
Seibert, J. L., Bellefonte.
Seibert, Wm. H., Steelton.
Seiberling, Fred C., Allentown.
Seiple, S. C., Center Square.
Service, C. A., Bala.
Shartle, J. M., Millersville.
Sharpless, W. T., West Chester.
Sharpnack, T. H., Jefferson.
Shanor, J. D., Allegheny.
Shaffer, J. W., Cartwright.
Shaffer, O. H., Altoona.
Shearer, J. Y., Sinking Spring.
Shelly, D. W., Ambler.
Shellenberger, J. R., Germantown.
Shoemaker, G. E., Eaglesmere.
Shillitto, G. M., Allegheny.
Shope, E. L., Harrisburg.
Showalter, H. C. W., New Holland.
Schultz, C., Danville.
Shumaker, L. M., Elliottsburg.
Silliman, J. E., Erie.
Simpson, T. P., Beaver Falls.
Simpson, W. C., New Brighton.
Skinner, W. F., Chambersburg.
Slack, Julia H., Bristol.
Slifer, H. F., North Wales.
Small, J. F., York.
Smith, D. K., Altoona.
Smith, A. M., Beaver Springs.
Smith, J. E., Altoona.
Smith, S. S., Emporium.
Smith, W. C. J., St. Clair.
Smith, G. W., Hollidaysburg.
Snively, I. N., Waynesboro.
Snyder, A. E., New Milford.
Snyder, C. E., Greensburg.
Somerville, H., Chest Springs.
Spangler, H. A., Carlisle.
Spangler, C. F., Kane.
Sprowls, J. M., Claysville.
Srodes, J. L., Wilkinsburg.
Stamm, A. A., Mohns Store.
Statler, F. B., Johnstown.
Steele, B. P., Newton Hamilton.
Stemmetz, E. G., Hokendauqua.
Stever, J. C., Three Springs.
Stevens, C. L.. Athens.
Stewart, S. C., Clearfield.
Stewart, J. G., Pitcairn.
Stewart, W. S., Wilkesbarre.
Stick, W. C., Glenville.
Stiles, G. M., Conshohocken.
Stockdill, T. F., Rural Valley.
Stout, A., Bethlehem.
Stoeckel, Louise M., Wilkesbarre.
Storer, H. V. H., Chester.
Strouss, U. S., Beaver.
Straight, A. M., Bradford.
Strickler, A. W., Scottdale.
Strickler, C. M., Lebanon.
Strickler, A. H., Waynesboro.
Strickland, D. H., Erie.
Stuart, G. E., Ivyland.
Sturgeon, W. H., Uniontown.
Styer, D. W.. Churchtown.
Swing, E. V.. Coatesville.
Swoyer, O. D., South Bethlehem.
Szlupas, J., Scranton.
Taggert, D., Frackville.
Taylor, L. H., Wilkesbarre.
Taylor, W. V. M., McKeesport.
Taylor, J. G., Overbrook.
Taylor, J. E., Rockland.
Teagarden, W. D., Washington.
Thayer, A., Erie.
Thomas, V. F., Baldwin.
Thomas, J. Q., Conshohocken.
Thompson, W. R., Washington.
Thompson, J. R., Pittston.
Thomson, C. E., Scranton.
Thorne, J. M., McKeesport.
Tidd, E. J., Clark.
Timmons, J. M., West Alexander.
Tomb, H. F., Johnstown.
Towler, S. S., Marienville.
Trabert, J. W., Annville.
Tracy, E. G., Troy.
Traver, S. N., Steelton.
Treichler, C. G., Honey Brook.
Troxell, T. S., Gallitzin.
Troxell, W. E., Gallitzin.
Turnbull, T. Jr., Allegheny.
Tweedle, J. B., Weatherly.
Twitmyer, J. H., Sharpsville.
Ullom, J. T., Waynesburg.
Ulrich, W. B., Chester.
Ulrich, Marion, Millersburg.
Umstad, J. R.. Norristown.
Underwood, A. M., Lancaster.
Underwood, S. L., Pittston.
Urmson, A. W., New Castle.
VanCamp, J. E., Carlisle.
VanKirk, T. R., McKeesport.
VanKirk, B. H., West Newton.
VanVoorhis, J. S , Belle Vernon.
Vastine, G. H., Catawissa.
Vedder, W. D.. Mansfield.
Wagoner, G. W., Johnstown.
Wagner, W. H.. York.
Wagenseller, B. F., Selinsgrove.
Waid, J. M., Titusville.
Wakefield, A. A., Johnstown.
Walker, W. E., McKeesport.
Walker, W. J., Homestead.
Walter, H. B., Harrisburg.
Walton, L. S., Jenkintown.
Warren, Jos. W., Bryn Mawr.
Waterworth, S. J., Clearfield.
Watson, R. B., Lock Haven.
Weatherby, B. J., Wilkesbarre.
Weaver, J. K., Norristown.
Weaver, W. G., Wilkesbarre.
Weaver, S. J., Bethlehem.
Weageley, T. G., Marion.
Webb, C., Wellsboro.
Webb, Walter, Sharon Hill.
Wehlaw, L.. Scranton.
Weidman, W. M., Reading.
Welch, J. C., Bellevue.
Welchaus, G. R., Lancaster.
Wenck, Mary M., Sunbury.
Wentz, A. C., Hanover.
Wentz, Wm. J., New Providence.
Wenger, M. L., Reading.
Wenrich, G. G., Wernersville.
Whann, W. L., Franklin.
Wheler, A. C.. Leboeuf.
White, T. H., Connellsville.
Whitcomb, H. H., Norristown.
Wible, E. E., Munhall.
Wilson, A. S.. Bristol.
Wilson, C. G., St. Marys.
Wilson, F. S. Jenkentown.
Wilson, J. H.. Beaver.
Wilson, J. H., Bethlehem.
Wilson, W. S., McVeytown.
Wilson, J. G., Montrose.
Wilson, H. G., Laporte.
Willite, Mary, Norristown.
Wiley, S. N., Norristown.
Williams, W. L., Ridgway.
Williams, M. J., Scranton.
Williams, W. T., Mt. Carmel.
Williams, T. R., Punxsutawney.
Willetts, T. L., Harrisburg.
Wilhelm, E. T., S. Bethlehem.
Winger, F. W.. Bradford.
Wirebeck, I. J., Monessen.
Witherspoon, J., Allegheny.
Wolford, M. L., Harrisburg.
Wolfe, L. E.. Manheim.
Wolfe, R. W., Taylorstown.
Woodhead, H. L.. Forksville.
Woodward, W. M., McKeesport.
Woodburn, S. M., Towanda.
Wood, C. B., Monongahela City.
Woods, G. B., Washington.
Worrell, J. W., Brownsville.
Wright, J. L., Erie.
Wright, J. W., Erie.
Wyant, J. B. F., Kittanning.
Wynn, C. A., Derry Station.
Yeilding, B. W., Starrucca.
Young, R. W., Slatington.
Youngman, C. W., Williamsport.
Zeigler, J. L., Mt. Joy.
Zell, J. W., Fairmount.
Ziegler, J. P., Mt. Joy.

RHODE ISLAND.

Baldwin, M. E., Newport.
Bellamy, R., Newport.
Black, T. F., Providence.
Briggs, Alex. B., Ashaway.
Buxton, G. E., Providence.
Capron, F. P., Providence.
Carver, R. H., Providence.
Champlin, Jno., Westerly.
Cheesebro, E. D., Providence.
Clarke, E. D., Woonsocket.
Collins, Geo. L., Providence.
Crooker, G. H., Providence.
Curley, P. F., Newport.
Day, F. L., Providence.
Davis, F. J., Newport.
Eldy, R. P., Jr., E. Providence.
Farrell, J. T., Providence.
French, Chas. H., Pawtucket.
Fuller, Frank B., Pawtucket.
Gardner, C. T., Providence.
Gardiner, H. K., Wakefield.
Gray, D. F.. Providence.
Harrington, F. M., Pawtucket.
Harvey, N. D., Providence.
Hillard, W. A., Westerly.
Hunt, S., E. Providence.
Keene, Geo. F., Howard.
Kenyon, G. H., Providence.
McCaw, W. J., Providence.
MacKnight, A. S., Adamsville.
Mathews, G. S., Providence.
Mathews, A.. Providence.
Metcalf, H., Wickford.
Miller, H. G., Providence.
Mitchell, J. W., Providence.
Morgan, J. H., Westerly.
Mowry, C., Providence.
Mowry, J. E., Providence.
Palmer, W. H., Providence.
Parks, N. O'D., Ashton.
Perkins, Jay, Providence.
Putnam, Helen C., Providence.
Remick, A.. Providence.
Rice, Harriet, Newport.
Rogers, F. T., Providence.
Robinson, R. R., Wakefield.
Sherman, W. S., Newport.
Siegfried, C. A., Newport.
Smith, F. B., Washington.
Smith, R. M., Riverpoint.
Smith, R. B., Westerly.
Smith, T. J., Valley Falls.
Stimson, E. P., Tiverton.
Stover, Horatio R., Newport.
Swarts, G. T., Providence.
Taylor, V. O., Providence.
Taylor, P. K., Kingston.
Traver, W. H., Providence.
Weaver, H. V., Carolina.
Webb, J. A., Providence.
Wheatland, M. F., Newport.
White, W. R., Providence.
Winsor, John, Anthony.

SOUTH CAROLINA.

Allen, W. B., Little Rock.
Babcock, J. W., Columbia.
Baily, T. B., Georgetown.
Barbot, L.. Charleston.
Black, W. C., Greenville.
Brodie, R. L., Charleston.
Burdell, W. J. Camden.
Cathcart, R. S., Charleston.
Corbett, J. W.. Camden.
Crawford, T. A., Rock Hill.
Croft, T. G., Aiken.
Culbertson, J. R., Gray Court.
Dawson, J. L., Charleston.
Dean, G. R., Spartanburg.
DeSaussure, P. G., Charleston.
Dial, W. H., Laurens.
Duckett, J. P., Anderson.
Earle, T. T., Greenville.
Epting, R. B., Greenwood.
Evans, James, Florence.
Furman, D., Greenville.
Golden, J. P., Georgetown.
Harris, J. C.. Anderson.
Henry, B. A.. Anderson.
Henslee, C.. Dillon.
Horlbeck, H. B., Charleston.
Houseal, W. G.. Newberry.
Jervey, J. W., Greenville.
Kendall, F. D.. Columbia.
Kollock, C. W., Charleston.
Lowman, W. R., Orangeburg.
Lunney, J., Darlington.
McGahan, C. F.. Aiken.
McLeod, F. H.. Florence.
Mayer, O. B., Newberry.
Memminger, A., Charleston.
Miller, J. R., Rock Hill.
Moore, A. A.. Camden.
Munn, J. H.. Hyman.
Napier, J. L., Blenheim.
Nardin, W. H.. Anderson.
Orr, S. M., Anderson Ct. House.
Parker, E. F.. Charleston.
Rhett, R. B.. Charleston.
Rice, H. W., Columbia.
Simmons, M., Charleston.
Simons, T. G., Charleston.

Stephens, L. C., Greenville.
Stribbling, J. S., Seneca.
Taylor, B. W., Columbia.
Ware, J. R., Greenville.
Whaley, T. P., Charleston.
Wilhite, J. O., Anderson.
Witherspoon, R. G., Holland.
Wylie, Wm. D., Richburg.

TENNESSEE.

Allen, J. T., Brownsville.
Altman, J. T., Nashville.
Anderson, E. C., Chattanooga.
Atchison, W. A., Nashville.
Atchison, C. R., Nashville.
Barbee, J. T., Jackson.
Beauchamp, J. A., Nashville.
Biggs, V. A., Martin.
Blake, D. B., Nashville.
Blackman, J. A., Medina.
Boyd, John M., Knoxville.
Brandau, Jno. W., Clarksville.
Broyles, C. J., Johnson City.
Buist, John R., Nashville.
Campbell, M., Knoxville.
Carmichael, J. W., Knoxville.
Carroll, C. T., Jr., Marvin.
Carter, R. H., Lynnville.
Castles, W. S. A., Oakland.
Cates, B. B., Knoxville.
Chance, H. C., Tazewell.
Cheatham, Richard, Nashville.
Clack, J. M., Rockwood.
Clark, E. B., Chattanooga.
Cliffe, D. B., Jr., Franklin.
Cobleigh, E. A., Chattanooga.
Cole, J. D., Newbern.
Collins, E. E., Williamsport.
Cox, A. E., Milan.
Cox, J. B., Huntingdon.
Crawford, J. Y., Nashville.
Crockett, S. S., Nashville.
Crook, J. A., Jackson.
Crook, J. L., Jackson.
Crosthwaite, G. W., Florence Sta.
Curtis, W. E., McKenzie.
Deaderick, C., Knoxville.
Deutsch, J., Memphis.
Dietrich, W. A., Chattanooga.
Doak, W. H., Russellville.
Douglas, Richard, Nashville.
Douglas, J. P., Bolivar.
Edgerton, H. K., Lebanon.
Edwards, J. A., Columbia.
Edwards, G. P., Nashville.
Ellett, E. C., Memphis.
Eve, Duncan, Nashville.
Ewing, W. G., Nashville.
Faucett, J. T., Trenton.
Fain, S. W., Dandridge.
Fleming, J. L., Jacks Creek.
Foute, Wm. T., Lenoir City.
Fowler, S. B., Gainesboro.
Franklin, W. B., LaGrange.
Frey, J. H., Cheap Hill.
Gallion, T. W., Dandridge.
Gillespie, G. B., Covington.
Givan, G. C. G., Harriman.
Glenn, W. F., Nashville.
Gould, E. P., Chattanooga.
Graddy, L. B., Nashville.
Grainger, R. A., Paris.
Greenwood, T. M., McCays.
Griffin, J. F., Tiptonville.
Griffin, R. W., Martin.
Grivelly, H. F., Hohenwald.
Haggard, W. D., Jr., Nashville.
Handley, Jas. W., Nashville.
Hanner, Jas. P., Franklin.
Happel, T. J., Trenton.
Hardin, R. A., Savannah.
Harris, J. E., Nashville.
Harrison, W. B., Columbia.
Henning, B. G., Memphis.
Herman, M. B., Memphis.
Herron, J. T., Jackson.
Hochstetter, E. R., Ridgedale.
Holtzclaw, C., Chattanooga.
Hope, W. T., Chattanooga.
Howell, J. L., Knoxville.
Hubbard, G. W., Nashville.
Jelks, J. L., Memphis.
Jolly, W. J., McMinnville.
Johnson, W. H., Sewanee.
Jones, James T., Jackson.
Jones, E. H., Murfreesboro.
Jones, F. A., Memphis.
Krauss, W., Memphis.
Lenoir, B. B., Lenoir.
McCall, J. W., Huntington.
McCord, W. A., Lewisburg.
McFall, R. J., Cumberland City.
McGannon, M. C., Nashville.
McRady, F. S., Petersburg.
McSwain, J. A., Paris.
Macon, A. L., Fredonia.
Maddin, T. L., Nashville.
Martin, J. B. S., Cookeville.
Marable, T. H., Clarksville.
Miller, W. J., Johnston City.
Miller, S. R., Knoxville.
Mitchell, R. W., Memphis.
Moody, G. W., Shelbyville.
Murfree, J. B., Sr., Murfreesboro.
Murfree, J. B., Jr., Murfreesboro.
Neely, J. J. Jr., Bolivar.
Neil, David R., Nashville.
Nelson, E., Chattanooga.
Omohundro, O. C., Nashville.
Pearce, D. M., Union City.
Peavler, G. M., Bristol.
Powell, T. K., Eurekaton.
Price, Geo. H., Nashville.
Ramsey, A. B., McMinnville.
Rathmell, J. R., Chattanooga.
Read, R. W., Blackman.
Rochelle, W. F., Jackson.
Rodgers, C. W., Como.
Ross, J. W., Peachers Mills.
Rucker, S. T., Chattanooga.
Runyon, F. J., Clarkville.
Sale, E. P., Memphis.
Sasser, J. A., Middleton.
Saunders, D. D., Memphis.
Savage, G. C., Nashville.
Scates, D. W., Martin.
Scott, W. S., Dickson.
Scruggs, A. D., Knoxville.
Sebastian, C. M., Martin.
Shannon, J. D., Greenfield.
Shannon, J. E., Sharon.
Sheddan, W. K., Columbia.
Sinclair, A. G., Memphis.
Slayden, C., Dickson.
Smith, M. M., Cedar Chapel.
Steele, N. C., Chattanooga.
Stonestreet, R., Flat Rock.
Tate, H. W., Bolivar.
Taylor, J. H., Knoxville.
Taylor, W. W., Memphis.
Thach, S., Decherd.
Thornton, G. B., Memphis.
Tittsworth, I. M., Mossy Creek.
Tomlinson, O. R., Tate Springs.
Travis, B. F., Chattanooga.
Trawick, A. N., Nashville.
Turner, B. F., Memphis.
Tyree, C. E., Trenton.
VanDeman, J. H., Chattanooga.
Vance, W. K., Bristol.
Walker, N. S., Dyersburg.
Walker, E. B., Savannah.
Warden, C. C., Nashville.
Warmuth, H. J., Smyrna.
Watkins, G. H., Hollow Rock.
Watson, F. W., Union City.
Weldon, A. J., Paris Landing.
Welburn, W. C., Nashville.
West, G. R., Chattanooga.
Winston, W. B., Memphis.
Witherspoon, J. A., Nashville.
Wood, Hilliard, Nashville.
Woolford, J. S. B., Chattanooga.
Wright, W. M., Huntingdon.
Yarbrough, L. A., Covington.
Young, A. H., Ripley.

TEXAS.

Adams, W. H., Crowell.
Anderson, Chas., Brownsville.
Archer, W. A., Houston.
Archer, Minnie C., Houston.
Ashton, L., Dallas.
Austin, J. H., El Paso.
Barham, J. H., Nacogdoches.
Barry, W. R., Campbell.
Beall, E. J., Ft. Worth.
Bell, T. J., Tyler.
Bindley, J. H., San Antonio.
Blalock, W. C., Kosse.
Boyd, F. D., Ft. Worth.
Brannagel, J., San Antonio.
Bundy, Z. T., Milford.
Burroughs, S. R., Buffalo.
Buster, O. C., Pilot Point.
Cantrell, C. E., Wolfe City.
Chilton, R. H., Dallas.
Coble, J. M., Dallas.
Cole, W. F., Waco.
Coleman, P. C., Colorado.
Conerly, T. W., San Angelo.
Cook, H. P., Galveston.
Cornick, B., Knickerbocker.
Cozby, J. A., Azle.
Cross, E., Del Rio.
Davis, E. P., Houston.
Devine, Jno. J., Tom Bean.
Dodson, J. E., Vernon.
Duncan, T. G., Victoria.
Duringer, W. A., Ft. Worth.
Eads, B. F., Marshall.
Evans, J. R., Devine.
Fallen, J. W., Wilmer.
FitzSimon, J. T., Castroville.
Ford, F. C., Nacogdoches.
Fouts, J. J., Gonzales.
Fowler, B. A., Brownwood.
Frazier, J. M., Belton.
Frick, E. B., Aransas Pass.
Garnett, J. W., Aransas Pass.
Garwood, A., New Braunfels.
Gibson, John E., McKinney.
Gilcreest, J. E., Gainesville.
Gillis, J. Angus, Buda.
Gist, V., Spanish Fort.
Gray, Wm., Caddo Mills.
Graves, M. L., San Antonio.
Grammer, R. B., Ft. Worth.
Hackler, G. M., Ennis.
Hall, F. J., Dallas.
Harrison, R. H., Columbus.
Harrison, J. T., San Antonio.
Hemphill, J. A., Whitewright.
Herff, F., San Antonio.
Hicks, F. M., San Antonio.
Hilgartner, H. L., Austin.
Hudson, S. E., Austin.
Inge, J. M., Denton.
Jenkins, A. B., Hubbard.
Johnstone, F. B., Anderson.
Jones, W. T., Georgetown.
Jones, J. C., Gonzales.
Jordan, J. D., Madisonville.
Kenney, J. W., San Antonio.
Kingsley, B. F., San Antonio.
Kirkpatrick, D. F., Lewisville.
Kuhn, Aug., Walburg.
LeGrand, G. F., Graham.
Link, E. W., Palestine.
McCarty, John, Briggs.
McCuistion, L. P., Paris.
McCullough, J. T., Quanah.
McKnight, W. B., Mansfield.
McLaughlin, J. W., Galveston.
McNew, H. L., Honey Grove.
McReynolds, J. O., Jr., Dallas.
Mathers, W. R., Rock Hill.
Mathews, W. J., Austin.
Mathewson, E. H., Keene.
Menefee, E. L., Granbury.
Milliken, S. E., Dallas.
Miller, R. E. L., Ft. Worth.
Montgomery, A. L., Tyler.
Morrison, M. M., Van Alstyne.
Mullen, J. A., Houston.
Murphy, W. A., Burns.
Neathery, E. J., Sherman.
Neel, J. McHenry, Bonham.
Nowierski, B. J., Yorktown.
Oldham, J. P., San Antonio.
Olive, N. A., Waco.
Paine, J. F. Y., Galveston.
Painter, F. W., Pilot Point.
Paschal, F., San Antonio.
Phillips, B. A., Hewitt.
Pickett, N. J., Milford.
Pope, E. D., Kontze.
Rawlings, J. A., El Paso.
Raysor, P. M., Bryan.
Red, S. C., Houston.
Sampson, J. H., Houston.
Sampson, A. F., Galveston.
Saunders, B., Ft. Worth.
Saunders, J., Orange.
Scott, R. T., Houston.
Scott, A. C., Temple.
Scott, M. M., Brownwood.
Sears, J. H., Waco.
Shaw, E. N., Cameron.
Shearer, T. W., Wallisville.
Sherrill, E. A., Hix.
Shropshire, W., Yoakum.
Smart, S. J., Junction City.
Smith, Q. C., Austin.
Smith, M. M., Austin.
Smith, A. D., San Antonio.
Smith, C. A., Tyler.
Spearman, Wm. C., Texarkana.
Spohn, A. E., Corpus Christi.
Spurlock, G. L., Gainesville.
Steiner, R., Austin.
Strayhorn, J. M., Bartlett.
Tainter, L. K., Fredericksburg.
Taylor, M. A., Austin.
Terry, W. G., Denison.
Veasey, Wm., Van Alstyne.
Wagely, T. J., Cleburne.
Walker, W. W., Schulenburg.
Weems, W. A., Columbia.
West, H. A., Galveston.
Williamson, J. A., Mineral Wells.
Wilson, J. T., Sherman.
Wolff, A. S., Brownsville.
Womack, C. W., San Antonio.
Wood, W. A., Hubbard.
Wood, H. A., Houston.
Wooten, J. S., Austin.
Yates, J. A., Weser.
Zachary, R. B., Bedford.

UTAH.

Adamson, E. A., Richmond.
Aird, J. W., Heber.
Allen, S. H., Provo.
Baker, G. W., Ogden.
Baldwin, S. C., Salt Lake City.
Bascom, F. S., Salt Lake City.
Behle, W. H., Salt Lake City.
Bower, A. S., Salt Lake City.
Brick, S. L., Ogden.
Critchlow, J. F., Salt Lake City.
Driver, John, Ogden.
Ellerbeck, W. S., Salt Lake City.
Ewing, A. C., Salt Lake City.
Ewing, S., Salt Lake City.
Fisner, R. W., Salt Lake City.
Fisher, M. O., Scofield.
Gordon, J. S., Ogden.
Hardy, M. H., Provo.
Harrison, J. N., Salt Lake City.
Hosmer, A. J., Salt Lake City.
Hosmer, C. S. Nephi.
Hough, C. P., Salt Lake City.
Jones, P. E., Salt Lake City.
Kerr, A. A., Salt Lake City.
Keogh, P. S., Salt Lake City.
King, J. C. E., Salt Lake City.
Lyons, I. A. E., Salt Lake City.
Maclean, A. C., Salt Lake City.
Mayo, H. N., Salt Lake City.
Niles, H. D., Salt Lake City.
Pike, W. R., Provo.
Plummer, C. G., Salt Lake City.
Powers, H. J., Ogden.
Rauscher, A., Murray P. O.
Silver, E. V., Salt Lake City.
Smart, G. L., Springville.
Viko, Eindred, Park City.
Wright, E. S., Salt Lake City.

VERMONT.

Albee, Elmore S., Bellows Falls.
Allen, J. M., St. Johnsburg.
Belden, G. W., Underhill.
Bingham, LeRoy M., Burlington.
Burnett, D. L., South Royalton.
Campbell, E. R., Bellows Falls.
Caverly C. S., Rutland.
Chandler, C. E., Montpelier.
Crain, M. R., Rutland.
Davenport, Geo., East Randolph.
Foster, G. S., Putney.
Gartland, T. F., White River Junction.
Gorham, Geo. H., Bellows Falls.
Gray, F. S., Troy.
Greene, L. M., Bethel.
Hamilton, J. H., Richford.
Hamilton, Jas. M., Rutland.
Hanrahan, J. D., Rutland.
Hawley, D. C., Burlington.
Hill, J. S., Bellows Falls.
Holcombe, L. C., Milton.
Holton, Henry D., Brattleboro.
Huntington, Wm. M., Rochester.
Jackson, J. H., Barre.
Jackson, F. K., Burlington.
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SATURDAY, SEPTEMBER 29, 1900.

THE PASSING OF THREE EX-PRESIDENTS OF THE AMERICAN MEDICAL ASSOCIATION.

During the past week three ex-Presidents of the American Medical Association have died, Drs. Hunter McGuire, Lewis A. Sayre, surgeons of worldwide reputation and foremost men in their profession, and Dr. Alfred Stillé, renowned as a physician and as a teacher.

Dr. Sayre has been called the father of orthopedics, a surgical specialty that is indebted to him more perhaps than to any other one man. His work in this department was notable from the very beginning of his practice, and he early obtained an international fame both as an originator of new methods and as a successful operator. He was eminent, however, not only as a surgeon, but also as a sanitarian, in which capacity he made one of the best health officers New York has had. The honors he received were numerous, but of none of them was he more proud than that of the Presidency of the American Medical Association, which position he held at the session of 1880.

Dr. Hunter McGuire was not only eminent as a surgeon, but was also the idol of his section of the country from his record in the Civil War, in which he was the most intimate friend and associate of "Stonewall" Jackson. He was a man of strong individuality, and has left his mark on the profession that will not soon be obliterated.

Dr. Stillé, the last of the three, the notice of whose death comes to us as we go to press, has been for many years conspicuous among the men who have made Philadelphia a center for medical progress and instruction. Like Dr. Sayre, his connection with the Association dates from its beginning; he was active in its organization and was one of its first secretaries.

It is a strange, and an almost startling coincidence, that three from the little company of ex-Presidents of the American Medical Association should die within a space of six days; one on the 19th, one on the 21st and another on the 24th. They were all well advanced in years, the youngest being Hunter McGuire, sixty-five; Sayre was eighty, and Stillé eighty-seven.

The passing of these leaves but eleven who have acted as President of the Association. The following are their names, the years of their presidency and their present ages:

N. S. Davis, 1864-65, age 83; Elisha H. Gregory, 1887, age 76; Edward Mott Moore, 1890, age 86; Henry O. Marcy, 1892, age 63; James F. Hibberd, 1894, age 84; Donald Maclean, 1895, age 61; Beverly R. Cole, 1896, age 71; Nicholas Senn, 1897, age 56; George M. Sternberg, 1898, age 62; Joseph M. Mathews, 1899, age 53, and W. W. Keen, 1900, age 63.

LAY INFLUENCES IN MEDICAL AFFAIRS.

In the process of evolution of the medical college and hospital, lay influences have become gradually more and more dominant, sometimes to the advantage of the institutions in question, but more often to their detriment. The belief is entirely too common that physicians are poor business men and inefficient executives and administrators; but such an opinion must be based on misconception, as it will not be contended that physicians are, in general, lacking in judgment and powers of reasoning, although it must be admitted that they are too often indifferent to their own material welfare, and if they do not collect their accounts with the same promptitude and success as merchants and lawyers, for instance, it is partly because they do not look on the practice of medicine as a business in the accepted sense of that term. While, then, strictly speaking, the medical man may not be able to devote himself to matters of finance and business with the same force as his lay colleague, he must yet be recognized as an authority at least on medical matters, whether in the direction of education or of hospital organization and management. The plan, therefore, seems a wise one, to retain on boards of trustees of medical colleges and hospitals several physicians, whose counsel will prove most serviceable.

In illustration of the evil effects that may arise out of the opposite course, the experiences of the National Hospital for the Paralyzed and Epileptic, in London, may be cited.[1] This institution, whose medical and surgical staff includes the names of some of the most distinguished men in the world, has no medical representative on its board of managers, and a request for such representation, made as an outcome of certain differences, such as are almost bound to arise between a medical body, with its ethical standards, and a lay board, with its conceptions of business methods and discipline, has been denied, with the explanation that this would endanger the independence of the board and might lead to a subordination of the philanthropic aspect of the hospital work to the merely scientific and investigating. The explanation would seem to be sufficient to justify insistence on the request of the medical staff. It appears that the management of the hospital has been largely delegated to a secretary and general director, and the medical staff, as a result, has found the administration of the hospital becoming more and more unsatisfactory. Already, as one of the secondary evil results of this unfortunate state of affairs, the usual grant from the Metropolitan Hospitals Sunday Fund is to be withheld until the differences between the two bodies are adjusted.

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[1] The Journal, p. 635.

We have here an instance of lack of tact, if not of judgment, discernible even at this distance, wholly apart from any actual defects of management. The medical staff of every hospital and the teaching staff of every medical college are not less interested in their welfare and success than lay boards of managers, and they surely contribute not the least thereto, and this fact should receive practical recognition by the election to such boards of one or more medical men of the highest character who can be trusted to serve with distinction and usefulness in places that can not be filled by any other than physicians.

THE BACTERIOLOGY OF SCARLET FEVER.

Despite the obviously infectious character of scarlet fever, and its all but demonstrated dependence on a specific etiologic factor, the most industrious investigation has as yet failed to isolate a micro-organism that is universally accepted as the causative agent. Different observers in the past have found micrococci, and especially streptococci, in the blood, the scales, the throat, and in secondary lesions, but it has not yet been possible to establish the specific character of any one of the earlier described forms. They have, on the contrary, been variously thought to be responsible for the primary disorder, for the complications, and also to be accidental. In fact, streptococci have been found in the buccal secretions of healthy individuals.

Among those who have more recently devoted serious consideration to this subject and have given time and energy to its elucidation, is Medical Inspector Class of the Chicago Department of Health, who more than a year ago described a diplococcus as the cause of scarlet fever, and whose original contention has been since sustained in several communications by himself and by others. His paper in the present issue gives the latest facts that he has developed, and especially reviews one of the most recent European contributions on this subject, which, as is too customary with foreign authors, slights American researches, and only barely alludes to his earlier observations. Dr. Class reviews the whole subject and to avoid injustice, quotes the German authors verbatim to show in their own words the agreement of the form they have found with his diplococcus scarlatinæ.

It is not always an easy matter to determine the identity or the non-identity of the several cocci that have been put forward in this connection, but, in any event, Dr. Class deserves recognition for his observations, of which those of Baginsky and Sommerfeld may prove to be but confirmatory and deserving of attention because of the conditions under which they were made and the constancy of the results obtained. Class, however, has gone much farther than the German observers, inasmuch as he has developed in white swine, by intravenous injection of virulent cultures of his diplococci, a disease comparable with scarlet fever in human beings. He has also found that the blood from convalescents from scarlet fever is capable of inhibiting the growth of the diplococci on glucose-agar, while the blood from an indifferent source manifests no such activity. The blood from convalescents further exhibits some protective influence when injected into animals subsequently inoculated with the diplococci. It would seem that he has fairly shown that the form described by him meets the requirements laid down by Koch for a specific germ, and, unless his findings can be overthrown, should be accepted as the cause of scarlatina.

Baginsky and Sommerfeld use a certain commendable caution in proclaiming their findings and admit that they may be only a confirmation of an older discovery, but they would have done still better had they given due credit to observations more conclusive than their own, of which they certainly were not totally ignorant.

THE "PROFITESS" OF CHRISTIAN SCIENCE.

The miracle-working "she" of the present day, the "profitess" of "Christian Science," has made an exhibition of herself at a local fair at Concord, N. H., sharing the attention of the public with a high diver. This is supposed to put at rest the suspicions ventured by some that "mortal mind" had got the best of her to the extent that decomposition had set in, as it has with so many of her believers. This fact was sent, with details of her procession around the race course escorted by the marshals of the fair, by special telegram, to the *Chicago Times-Herald* for the satisfaction of her western devotees. The alleged reason of the "profitess'" emergence was her human but unsanctified interest in seeing the diver jump from a height of eighty feet into five feet of water, with the chance of breaking his neck.

THE NOTIFICATION OF TUBERCULOSIS.

The Supreme Court of Michigan has reversed the decision in the lower court in the Shurly case holding that the statute did not include consumption in the contagious diseases requiring compulsory report. According to press reports, the grounds for reversal are that it was beyond the power of the court to decide in the case of this particular statute what diseases are and what are not dangerous and communicable. The court holds that there is no danger line of which courts can take judicial notice, and that this was a question for the jury to decide. A new trial was therefore ordered. What will be the outcome of the future legal proceedings before a jury in this case is, of course, uncertain, but in any event it may be questioned whether the public is yet ready to have tuberculosis put on the list of notifiable diseases; at least this is the opinion of some of the most competent to pass judgment on the subject. There are, moreover, practical difficulties in the way, and unless the whole population is to undergo some sort of tuberculin test, as is done with cattle—assuming this to be reliable and safe—it does not appear quite clear how it is to be thoroughly done. In many of its less manifest forms tuberculosis is probably as dangerous by contagion as are some of the more developed types, and it is doubtful if these will be generally reported. It may be said that it is well to use precautions imperfectly if we can do no better, but there still remains in this particular case the question whether the classing of tuberculosis among the malignantly contagious diseases, like smallpox, diphtheria, scarlet fever, etc., as enumerated in the statute, is either expedient or correct. As regards either there is still some difference of opinion.

MUSICAL TALENT AND DEGENERACY.

In an article in the *American Journal of Insanity*, on "Degeneracy in the Army," noticed elsewhere in The Journal,[1] Dr. Charles E. Woodruff makes mention of the interesting fact that the musicians in the army are in some respects different from the average soldier, that they present a larger proportion of stigmata and require a different system of discipline. These army musicians are, it is understood, generally enlisted as such, but they may be taken from the ranks if they are known to manifest especial musical ability. The observation is an interesting one, as it seems to show that talent in this particular line, at least in the class of enlisted musicians, is associated with a certain degree of defect. How much the possibility that in the recruiting of musicians there may be a laxity of inspection, as compared with that of other enlisted men, has to do with this fact Dr. Woodruff does not even suggest, but it naturally occurs to one as at least a possibility. It is hardly likely, however, that even in this case the laxity would be so great as to permit the enlistment of a regular class of degenerate musicians as compared with others of the same occupation. The natural inference from the fact is that musical talent and degeneracy to some extent are associated. This accords with the view already editorially expressed in The Journal, that music has certain degenerative tendencies that are worthy of consideration by the profession.[2] It is certainly possible that a more or less exclusive devotion to this sensuous and emotional art, as a pursuit, may be associated with an original defect, as well as develop one where it did not previously exist.

THE ROSE SPOTS OF TYPHOID FEVER.

The rose spots form an important diagnostic feature in typhoid fever. The cause of the cutaneous changes that present themselves as rose spots remained unexplained until a year ago, when Neufeld and Curschmann succeeded in cultivating typhoid bacilli from the blood in the spots, thus demonstrating that the roseola depends on the lodgment of the bacilli in the skin. But Neufeld did not succeed in demonstrating bacilli in sections of roseolous areas, and consequently a clear idea of the exact relations of the bacilli to the lesions in the skin could not be formed. E. Fraenkel,[3] who was one of the first to show that the typhoid bacilli multiply rapidly after death and that the masses of bacilli found in properly stained sections of typhoid organs are largely of post-mortem origin, succeeded readily in finding bacilli in the rose spots after preservation of the excised pieces in bouillon at 37 C. for eighteen hours. Now, bacillary masses encountered either in organs some time after death or in tissues preserved after excision indicate the localization of the bacilli during life, because colonies or groups develop only in those places that harbored single bacilli before death or before excision. Fraenkel examined in this manner spots from four patients, and the results harmonize well in all essentials. In three of the cases cultures from the blood of rose spots gave colonies of typhoid bacilli. The bacilli lodge in the papillary body of the skin and preferably in the lymphatic vessels. Judging from the small number of masses found in sections from the pieces, subjected to incubation as described, it may be concluded that but few bacilli are required to produce the cutaneous eruptions of typhoid. The efflorescences are not merely hyperemic areas, but areas of genuine inflammation with cellular proliferation, especially of the fixed connective-tissue cells. In some areas coagulative necrosis also takes place. Hence, the distinct swelling and elevation of the rose spot. From the histologic structure of the rose spot it also becomes evident that the lesion has not subsided wholly on the disappearance of the redness. And Curschmann has pointed out that in some cases brownish or yellowish spots with a little desquamation may appear in place of the rose spot. In children and young adults he occasionally observed that small vesicles with turbid contents, which rapidly dried up, developed in the epidermis of rose spots. It may be concluded, then, that the rose spots of typhoid fever are inflammatory foci resulting from the deposition of typhoid bacilli in the lymph-vessels of the skin. Whether bacilli may reach the free surface of the skin through these lesions has not been demonstrated, but it does not seem unlikely that this may occur, and the possibility of dissemination of bacilli from the skin should not be lost sight of.

Medical News.

CALIFORNIA.

Dr. James M. Shannon, Oakland, has returned from Europe.

Dr. Millard G. Hinkle, Stockton, has moved to Seattle, Wash.

Dr. Samuel H. Buteau, Oakland, has returned from a five-months trip to Europe and Asia.

Dr. J. Underwood Hall, Jr., president of the San Jose Board of Health, has been granted leave of absence for a year to study municipal hygiene in Europe.

The health report of San Jose for August shows that no contagious diseases were reported during the month. There were 27 births and 17 deaths reported—a death-rate of 8.16 per thousand. Consumption caused 4 deaths and heart disease 3.

The health officer of Oakland, Dr. James H. Todd, in his annual report recommends, and the board of health has under serious consideration, the adoption of rules whereby consumption shall be placed on the list of contagious diseases and local quarantine established against it.

COLORADO.

Dr. Russell, who has been practicing in Louisville, has located in Colorado Springs.

Drs. Charles E. and Clara S. Bryant, Pinon, Montrose County, have moved to Denver.

The Hebrew Home for Consumptives, Denver, opened a year ago, is to have a new wing, to cost about $30,000, which has already been raised by voluntary contributions. The B'nai B'rith provides for the support of this institution.

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[1] Abstract 50, p. 846.

[2] The Hygiene of Music; Editorials, The Journal, xxxi, 189, 734.

[3] Ztft. f. Hyg. u. Infektionskr., 1900, xxiv, 482-496.

THE MEDICAL DEPARTMENT of the University of Denver opened its twentieth annual session September 11. Chancellor William H. Buchtel made the opening address. The laboratories have been newly equipped and an endowment fund for their maintenance has been started.

CONNECTICUT.

DR. VICTOR S. MERRITT, Hartford, has purchased the practice of Dr. William A. Jackson, Haydenville, and will locate there.

DR. JOHN E. MARTIN was appointed attending physician to the New Britain General Hospital, September 10. The board also appropriated $100 for surgical instruments.

DR. MOSES C. WHITE, who for the past twenty-five years has been at the head of the work in pathology at Yale University medical department, will retire from active work and will be continued as professor emeritus. The chair in pathology will be filled by Dr. Charles J. Bartlett, who has been assistant professor for the past five years. The chair of obstetrics and gynecology, made vacant by the death of Dr. George Campbell, will be filled by Dr. Otto G. Ramsay, of the Johns Hopkins University.

ILLINOIS.

DR. HARRY D. BROWNING, Little York, has sold his practice and moved to Oskaloosa, Ia.

DR. JAMES M. THORNTON has moved from Powellton back to his old home, Fort Madison, Ia.

DR. WILLIAM B. MADDOX, Augusta, was married to Miss Ida King, of Keokuk, September 13.

DR. STANLEY BURR DICKENSON, Austin, was married to Miss Nellie Cummings Shurtleff, September 26.

DR. S. P. HART, Auburn, has moved to Waverly and has entered into partnership there with Dr. J. H. Barto.

DR. WILLIAM S. CRAWFORD, Galena, has been elected county physician of Jo Daviess County at a salary of $300 a year.

DR. CHARLES B. FRY, Mattoon, has been appointed chief surgeon of the Peoria division of the Illinois Central Railroad.

DR. NELSON A. WRIGHT, Ramsey, has purchased the Manito property and practice of Dr. Thomas C. Murphy, and has moved to Manito.

THE SUPERVISORS of Winnebago County have appropriated $500 to the city hospital and the same amount to St. Anthony's Hospital, Rockford.

THE CORNER-STONE of the new Deaconness Hospital, Bloomington, was laid September 10. The building is to be in the shape of a Greek cross, two stories in height, and will contain forty rooms, including an isolation ward.

THE ATTORNEY-GENERAL is about to bring suit against the Metropolitan Medical College, formerly the Independent Medical College, Chicago. The charge is made that the institution issues diplomas without requiring a preliminary course of study.

Chicago.

DR. ALBERT H. HOY and family have returned after a summer spent in Europe.

DR. FREDERICK M. RITTENHOUSE was married to Miss Mary L. Wood, Cairo, September 25.

DR. AND MRS. JOSEPH MATTESON have returned from a three months' trip to the Black Hills.

MEDICAL INSPECTION of the public schools began September 17 by a force of fifty inspectors.

THE CHICAGO MEDICAL SOCIETY is about to publish an official medical directory of Cook County. The first meeting of the season will take place October 3.

THE PHYSICIANS' CLUB met September 24, Prof. Albion W. Small of the University of Chicago in the chair, and discussed "The Requirements for Admission to the Medical School."

THE MEDICAL STAFF of the Norwegian (Tabitha) Hospital has founded a library for the use of patients and attendants. It consists of 500 volumes, and represents an outlay of about $1000.

THE SOUTH CHICAGO HOSPITAL will soon be opened. A house containing thirteen rooms has been purchased, and is now being renovated and prepared for patients. The officers of the Hospital Association are: Dr. Charles F. Swan, president; Dr. Albert W. McLaughlin, vice-president, and James J. Larkin, treasurer.

DR. G. FRANK LYDSTON is about to issue a new book, from the Riverton Press, Chicago, under the title of "Panama and the Sierras, a Doctor's Wander Days.". It will contain observations and character sketches gathered during several trips to the Isthmus of Panama, the west coast of Central America and Mexico, and the Sierra Nevada, and will be profusely illustrated.

THE NORTHWESTERN UNIVERSITY MEDICAL SCHOOL will open for its fall session October 2. Dr. Joseph Zeisler will deliver the opening address on "Specialties and Specialists." With the completion of the new Wesley Hospital, now well under construction, the college will have more than 700 hospital beds for clinical instruction. Prof. Weller Van Hook, chief surgeon of Wesley Hospital, has reorganized the course of didactic surgery. A new amphitheater, with a seating capacity of 300, is to be constructed at Mercy Hospital for Prof. J. B. Murphy's clinic. Dr. William E. Schroeder has been made associate professor of surgery and, together with Prof. S. C. Plummer, will be associated with Professor Van Hook in Wesley Hospital.

HEALTH DEPARTMENT.

The deaths reported for the week ended September 22, 440, exceeded those in the corresponding week of 1899 by 25, the respective death-rates per thousand being 13.53 and 13.45. Of males, 364, and of females 176 died. There were 94 deaths under 1 year of age; 59 between 1 and 5 years, and 76 over 60 years. The principal causes of death were: Acute intestinal diseases, 77; consumption, 54; heart diseases, 41; nervous diseases, 36; violence, 36; pneumonia, 22; cancer, 17; Bright's disease, 15; typhoid fever, 7; suicide, 5. During the week, 41 examinations of food and 28 for suspected diseases were made in the laboratory. Of contagious diseases, 87 cases were reported, of which 54 were diphtheria. At the stockyards, 45,940 pounds of meat were condemned. Of the 297 specimens of cream and milk analyzed, 14 per cent. were below grade.

INDIANA.

DR. REID A. WHITE, Lafayette, will locate in Helena, Mont.

DR. GEORGE H. GRANT, Richmond, is very ill with typhoid fever.

DR. GEORGE M. YOUNG, Evansville, surgeon for the southern lines of the Illinois Central Railroad, has been made local surgeon of the northern lines also.

THE MEDICAL COLLEGE of Indiana has set aside $1500 to maintain fifteen beds at St. Vincent's hospital for use in bedside instruction to senior and junior students.

DIPHTHERIA is running a severe course at South Bend. In August there were 130 cases and 13 deaths, and up to September 13 there had been 77 cases and 7 deaths for the month. The health authorities are now "trying to maintain the strictest quarantine."

DR. J. MILTON RHODES, Indianapolis, who was fined for assault and battery by a justice of the peace on account of a collision which occurred while he was driving to see a patient, has been held by Judge Alford, of the criminal court, not liable for the injuries inflicted.

IOWA.

DR. MARY L. GEISER, Keokuk, has returned to Fort Madison.

DR. EDWIN C. BLISS, Grinnell, has moved to Radcliffe, Hardin county.

DR. JOHN T. HENDERSHOTT, Monroe, has been obliged by ill-health to move to Southern Colorado.

DR. H. C. HOMER, Waterloo, has moved to What Cheer, where he will be associated in practice with Dr. John A. Ri

TYPHOID FEVER is epidemic [illegible] sta[illegible] [illegible]m, Indepen[illegible] Thus far there have been [illegible] [illegible]aths. A water-tank is said to L[illegible]

KANSAS.

Dr. C. E. Munn, Topeka, has been appointed city bacteriologist.

Dr. Percy L. Germane, who has been residing in Grandin, Mo., has returned to Holton.

Dr. Benjamin E. Jones, Buffalo, has been appointed head physician of the Modern Woodmen of America for Kansas and Oklahoma, and has moved to Kansas City, Kan.

A "doctor," of Randolph, recently convicted of practicing medicine under a diploma from the Independent Medical College of Chicago, has been arrested at Hays City and brought to Topeka by the United States Marshal, on the charge of negotiating through the mails for the sale of some bogus medical diplomas. He will be arraigned before the United States Commissioner.

MARYLAND.

The Cecil county board of health advises the establishment of a county hospital at Elkton.

The report of Dr. J. Clement Clark, superintendent, shows that there are 229 male and 63 female patients in the State Hospital for the Insane, at Sykesville. Many applications are being received for the admission of private patients, and the superintendent thinks it might be advantageous to the state to receive them until the hospital is filled.

Baltimore.

Dr. Frederick Dobyns will spend October in Paris.

Dr. Edward J. Bernstein has returned from Europe.

Dr. Alexander D. McConachie has returned from a visit to Canada.

Drs. Francis T. and L. Wardlaw Miles have returned from Europe.

Drs. Thomas S. Cullen and Francis J. Kirby have returned from Paris.

Dr. B. Merrill Hopkinson has returned to the city after a summer's sojourn at Prout's Neck, Me.

Dr. R. T. Fleming has resigned his position as assistant resident physician at the City Hospital, and Dr. Owen will succeed him.

It is proposed that the health department undertake the destruction of the mosquitoes and thereby the eradication of malaria, which is quite prevalent at this season of the year. By pouring a small quantity of common kerosene oil in each of the 70,000 privy vaults and in all stagnant pools, it is believed that these pests can be eradicated. Mosquitoes are the bane of our citizens for five or six months annually.

The health department has made arrangements with the authorities in charge of Catholic parochial schools to place the latter under the department so far as health regulations are concerned in the same manner as the public schools. Hereafter, cases of diphtheria, scarlet fever, and other contagious diseases will be reported by the teachers in these schools and the pupils will be kept at home until they can present a certificate of health from a physician.

MASSACHUSETTS.

Dr. Ernest B. Young, Boston, was married on September 3 to Miss Grace Simonton, of Rockland.

The Wakefield board of health has ordered the local high school building closed until its sanitary condition has been so improved as to be satisfactory to the board.

Dr. George E. Chamberlain, Lawrence, who served during the Spanish-American war in Jacksonville, Savannah and Cuba, has been appointed acting assistant-surgeon in the army and is waiting orders.

The physicians of Lynn enjoyed an outing at Lynnfield, September 13, had a baseball match and a shooting contest.

The Hampden County Medical Society has recorded its disapproval of the reduced fees given by certain fraternal and benevolent societies, claiming that the medical practitioner should insist on at least the ordinary compensation instead of a stipulated sum per annum. Thus far, there was no room for litigation. It appears, however, that a patient who was sent by one of these so-called contract physicians to the Mercy Hospital in Springfield was refused admission to that institution unless the doctor in attendance withdrew from the case, which he finally consented to do for the sake of the patient, who required treatment which could be afforded only at a hospital. A suit will now be brought to ascertain whether the hospital staff could lawfully take this action under its charter, which provides that all patients shall be treated there who are brought to the institution by reputable physicians.

MICHIGAN.

Dr. George E. Grover, Evart, has sold his practice and will locate in Bay City.

Dr. R. C. Mahaney, who was graduated at Ann Arbor, this summer, has located at Owosso.

Dr. Andrew L. Swinton, Ontonagon, was married to Miss Ella Williams at Olivet, September 13.

Dr. James R. Arneill, Ann Arbor, was married to Miss Sara H. Taylor, at Los Angeles, Cal., recently.

The Michigan College of Medicine and Surgery, Detroit, began its fall term September 18. Prof. Robert H. Honner delivered the opening address.

A minimum standard has been adopted by the State Board of Registration and Examination, and the medical colleges of the state have been notified as to its details. It provides for a preliminary education equivalent to secure entrance into the freshman year of the university, including at least one year of Latin. The curriculum must comprise in lectures and teaching: Anatomy, 130 hours; physiology, 200 hours; chemistry and toxicology, 150 hours; pathology, 100 hours; therapeutics, 150 hours; histology, 60 hours; hygiene, 30 hours; practice of medicine, 390 hours; surgery, 195 hours; obstetrics, 120 hours; gynecology, 30 hours; bacteriology, 60 hours, and medical jurisprudence, 15 hours. The laboratory work must not be less than 240 hours in anatomy, 80 in physiology, 240 in chemistry and toxicology, 80 in pathology, 80 in histology, 48 in surgery and 120 in bacteriology. The clinical work must be reviewed by a committee of the board.

MINNESOTA.

Dr. Charles H. Norred, Minneapolis, who was appointed special quarantine officer by the board of health, several months ago, has resigned.

Albert Lea is agitating the question of a general city hospital, and two meetings have been held by the local profession in furtherance of the project.

Dr. J. Frank Corbett, bacteriologist of the Minneapolis health department, is seriously ill with diphtheria contracted while making cultures in the laboratory.

Dr. Mabel Austin has proposed to the St. Paul City Hospital board of control, to devote her services without compensation until June, as bacteriologist and pathologist to the hospital, provided the laboratory is so enlarged and equipped as to enable her properly to do the work.

Dr. Justus Ohage, health commissioner of St. Paul, has secured warrants for the arrest of a St. Paul butcher and the agent of a packing company for selling meat condemned as unfit for food. He has already obtained the passage of a resolution through the board of aldermen revoking the butcher's license.

The incorporation of the Medical Defense Association of Minnesota, whose object is to protect the interests of the medical practitioners of the state, is announced. The directors are Drs. James H. Dunn and John W. Macdonald; Minneapolis; Thomas McDavitt and Charles A. Wheaton, St. Paul, and others.

MISSOURI.

Dr. William H. Chrisinger has moved from Trenton and located in Princeton.

The Kansas City Medical College opened for its thirty-second annual session, September 12.

Compulsory vaccination of school children in the city is advised by Dr. Edwin E. Hunter, assistant health officer of St. Joseph.

The Medico-Chirurgical College, Kansas City, began its fourth year, September 12. Addresses were made by Dr. Blencowe E. Fryer on "The Pleasures of Medical Studies"; by Dr. Eugene R. Lewis, on "Now and Then," and others. A new $15,000 building for the college is to be erected during the present year.

NEW YORK.

Dr. Frederick M. Higgins, who has been practicing in Bozeman, Mont., has returned to Oswego.

Dr. William E. Palmer, Le Roy, was married to Miss Zilla Marietta Green, at Greigsville, September 12.

Dr. Charles E. White, Waterville, has moved to Rome.

Dr. Louis D. Masson has been appointed house physician at the Cohoes City Hospital.

Rome, during August, had 13 births and 23 deaths, of which cholera infantum caused 8. The sanitary inspector reported that the city water-supply was now uncontaminated.

The new census has surprised Binghamton by reducing materially her estimated population of 45,000. The new rating will increase the per thousand death-rate from 15.71 to 17.8 for last year.

Buffalo.

Dr. Sigmund Goldberg has returned from a three-months visit in Europe.

At a recent meeting of the medical section of the Buffalo Academy of Medicine, Dr. A. L. Benedict read an abstract from his essay on "Clinical Quantitative Estimation of Proteid Digestion in the Stomach," which was awarded the medal by The American Medical Association.

During August there were 509 deaths, as compared with 425 in the corresponding month in 1899. There were 32 deaths from consumption, 88 from cholera infantum, 42 from cancer, 17 each from apoplexy and meningitis, 29 from nephritis, and 13 each from inanition and typhoid fever. Of the deaths, 203 were children under 5 years of age, and 65 were 70 years old or over. There were 606 births during the month.

New York City.

Dr. Robert C. Miles has returned from a summer cruise.

Dr. William D. Farrell has located in Fort Dodge, Iowa.

Dr. L. I. Mason was recently married to Miss Lillian B. Thatcher,. also of New York.

Dr. John A. Horn discharged his colored servant, and a week afterward the latter tried to shoot the Doctor, who succeeded in disarming him.

The commissioners of the new State Hospital for Consumptives have selected a site at Big Clear, near Saranac Inn station. They admit that this is more expensive than the one at Dannemora, but they object to having the hospital associated with the state prison.

Mr. George D. Sweetser has left $5000 each to the Home for Incurables, Colored Home and Hospital, Woman's Hospital of the State of New York, House of Rest for Consumptives, New York Infant Asylum, New York Skin and Cancer Hospital and the Hospital for Ruptured and Crippled.

Roosevelt Hospital has just been provided with two electric automobile ambulances, each costing about $3000, and manufactured by the firm that made the pioneer automobile ambulance here for St. Vincent's hospital. It is announced that the New York and Presbyterian hospitals will soon have similar ambulances.

The ambulances of both Roosevelt and the Harlem Hospitals within the last few days have been in smash-ups, in which driver, surgeon and patient have all been injured. In one case the surgeon escaped with bruises and a severe scalp wound; in the other the surgeon had his leg broken and the driver sustained a fracture of one rib. In both instances street excavations were partly responsible for the mishap.

Dr. William N. Berkley, of Bellevue Hospital, has spent the summer studying the question of relation of mosquitoes to malaria. He is now conducting experiments on a man who is in Bellevue Hospital, suffering from a severe form of malaria. This man permitted a number of mosquitoes to draw blood from him, and thus contributed his mite to the cause of science.

The Bronx water famine is no longer a mere matter of inconvenience; physicians in that section report an unusual amount of sickness, which they think can be fairly attributed to the lack of a proper supply. It is rumored that this state of affairs is entirely preventable—is indeed a matter of politics. The citizens are thoroughly aroused, and have decided to take upon themselves the task of investigating the water-supply of their borough. They have already entered on this work with enthusiasm, and promise some interesting developments in the near future.

OHIO.

Dr. Charles E. Stewart, Sand Fork, has moved to Wellston.

Dr. Orville K. Hooper, Waverly, has located in Brooklyn, N. Y.

Dr. M. Howard Carmedy, Painesville, has returned after a prolonged absence in Great Britain.

The medical department of Western Reserve University, Cleveland, has under construction a new laboratory for clinical microscopy, and an isolating building for contagious diseases, both connected with Lakeside Hospital. The new pathological laboratory at Charity Hospital is now completed.

Cincinnati.

Dr. Mary Hawes, who was obliged recently to go to Denver for her health, has been made assistant to the chair of histology in Gross Medical College.

Dr. Harry F. Gau, has left for the East and Europe. He will spend some time at Johns Hopkins Hospital, Baltimore, going thence to New York, and subsequently to Europe, where he will remain two years.

Statistics just compiled by the secretary of state show that 2845 inquests were held in Ohio during the past fiscal year, an increase of 151 over the previous year. There were 122 homicides, 374 suicides, 117 deaths from intemperance, and the balance from accidents or unknown causes.

Dr. Frank Lamb, brother to the present senior resident surgeon at the Cincinnati Hospital, has obtained the interneship held by the late Dr. Herbert Elliot.

The city health officer has divided Cincinnati into 22 districts in order to determine the relative healthfulness of various localities. The statistics should show just what diseases are most prevalent. Following this plan, a health census of the city, for the purpose of determining the percentage of death and disease by districts will be made.

PENNSYLVANIA.

Dr. James G. Heading, Academia, was nominated for Congress, September 17.

Dr. Wentworth D. Vedder has been elected president of the Mansfield board of health.

Dr. Daniel G. Hersh, East Greenville, has purchased the practice of Dr. M. B. Oberholtzer, and has moved to Red Hill.

Dr. N. H. Rachlin, who has been serving as interne in Bellevue and Willard Parker hospitals, New York, has gone to Johnstown, as assistant to Dr. Louis H. Mayer.

The City of Allegheny and two firms of contractors are named as defendants in a suit for $10,000 brought by Dr. C. Le Roi Thompson, on account of a fall from a bicycle, by which his arm was broken.

At the annual meeting of the Trustees of the State Asylum for Chronic Insane of Pennsylvania, Wernersville, held at South Mountain, near Reading, September 10, Dr. Samuel S. Hill was re-elected superintendent for the ensuing year, Dr. Alexander W. Smith, and Dr. Laura Hulme, second assistant physician.

Philadelphia.

Dr. Andrew J. Downes has returned from Europe.

Dr. W. L. Rodman has been elected professor of surgery in the Woman's Medical College, but retains his former connection with the Medico-Chirurgical College.

Langdon Mitchell's dramatization of Dr. S. Weir Mitchell's novel, "The Adventures of Francois" is to be played at the Park Theater, beginning October 6.

THE SCHOOL MEDICAL INSPECTORS throughout the city began their work at the opening of the public schools, September 10. So far the city has made no appropriation for this work, which is purely voluntary.

THE J. B. LIPPINCOTT COMPANY has purchased land in East Washington Square upon which to erect its new building. The site was once occupied by the old Walnut Street Prison, in which American prisoners were confined during the British occupation of Philadelphia in the Revolution.

A CASE of smallpox was discovered in the Pulaskitown settlement, Germantown, September 22. The patient was at once taken to the Municipal Hospital and the house has been disinfected.

THE NEW ENTRANCE BUILDING of the Pennsylvania Hospital, to cost $60,000, is now far advanced and will be finished by December 1. The building consists of one story and basement, built of colonial brick. It has a depth of 88 feet, and is 45 feet wide. The first floor will consist of an entrance hall, and assembly room, and the basement will be divided into a kitchen, dining and other rooms.

AT A JOINT MEETING of the committee on office and the committee on hygiene of the board of education held a few days ago a complete set of rules were adopted looking to better hygiene in the public schools. Some of these were as follows: The temperature in the rooms should never be permitted to go under 65 nor over 76 F. When the weather will permit, the windows are to be raised at recesses for 10 minutes, and the windows are to be raised and the doors opened at the close of school. Sun should be permitted to shine in the school-room as much as possible. Spitting is prohibited.

THE TOTAL mortality of the city during the week ended September 22, was 356, a decrease of 74 over the previous week, and a decrease of 15 over the corresponding period of last year. The principal causes of death were: Apoplexy, 9; nephritis, 24; cancer, 12; cholera infantum, 21; tuberculosis, 39; heart disease, 40; appendicitis, 5; pneumonia, 16; suicide, 2. Typhoid fever, 41 cases, 5 deaths; scarlet fever, 12 cases, 2 deaths; diphtheria, 101 cases, 15 deaths.

THE WILL of the late Dr. J. M. Da Costa, which was admitted to probate, September 24, devises to the Pennsylvania Hospital $5000 to endow a bed in the medical ward; to the Children's Hospital, $5000 to endow a bed in memory of his son, John M. Da Costa; to the College of Physicians, $5000 to endow the Publication Fund; to the University of Pennsylvania, $5000 for the Professors' Retiring Fund, and to the Sunday Breakfast Association, $1000. His collection of medical charts, models, pictures and drawings is left to Jefferson Medical College, and his extensive medical library, to the College of Physicians.

TEXAS.

DR. GEORGE A. TROTT, Georgetown, was married to Mrs. Donnie Gwinn, at Austin, September 13.

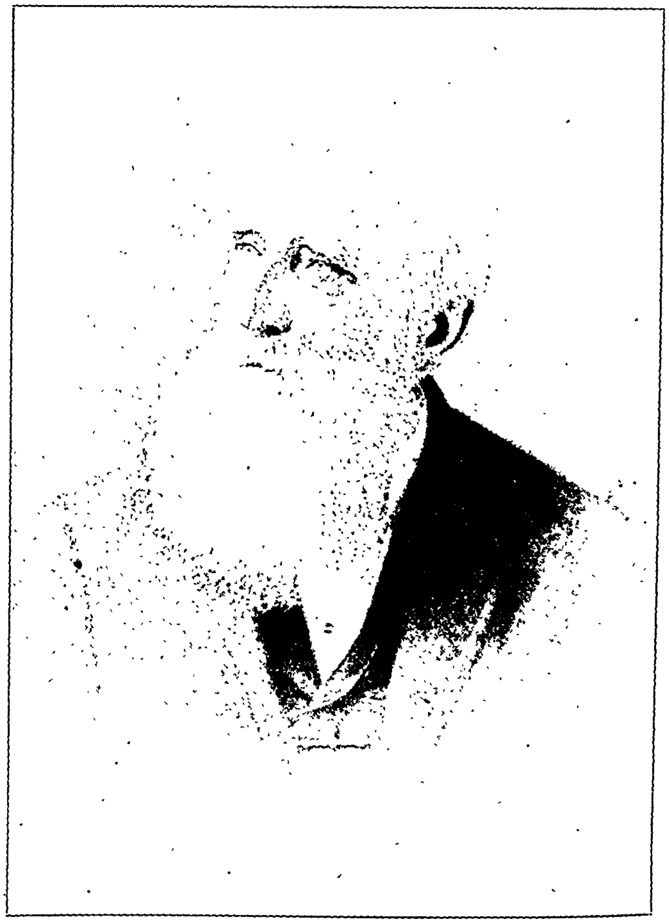
THE PUBLIC SCHOOLS for whites at Marshall have been ordered closed until further notice, owing to an outbreak of scarlatina in the town.

SEALY HOSPITAL, Galveston, which was reported to have been destroyed by the storm, suffered no harm aside from broken windows and drenching of certain rooms. The nurses' home, which adjoined it, was completely demolished. None of the regular inmates of the hospital died, but many died who were brought there in the emergency. The hospital sheltered several hundred refugees during the storm.

Deaths and Obituaries.

Dr. Alfred Stille.

Dr. Alfred Stillé, ex-President of the American Medical Association, whose death occurred September 24, was born in Philadelphia in 1813. His academic and medical education was received at the University of Pennsylvania, where he took his degree of bachelor of arts in 1832 and of doctor of medicine in 1836. He supplemented his college course by service as a resident physician in the Philadelphia and Pennsylvania Hospitals and by study abroad, in Paris and other European capitals. From 1844 till 1850 he lectured on pathology and the practice of medicine before the Pennsylvania Association for Medical Instruction. In 1854 he was elected professor of the theory and practice of medicine in the Pennsylvania Medical College, and filled the chair until 1859. In 1864 he was chosen to a similar position in the University of Pennsylvania, and held it until his resignation in 1884. He was one of the founders of THE AMERICAN MEDICAL ASSOCIATION and one of the first secretaries, and was President at the meeting in San Francisco in 1871. Dr. Stillé is best known to the profession as a medical writer, though his career as a teacher was long and successful. His great work on therapeutics, which passed through a number of editions, was long the standard work on the subject, and his connection with the National Dispensatory has made his name almost a household word. Aside from these he published many notable papers and monographs, among which may be mentioned his work on cerebrospinal meningitis, one of the most often quoted of the earlier contributions to the subject. He was one of the partakers in the early movements of the American Medical Association to reform medical education, and published a brochure on the subject in 1845. Dr. Stillé's record speaks for itself; as a writer and a teacher he has made his mark on the medical history of the country, of which his career will form a not insignificant part.



Until the last few months Dr. Stillé's health had been remarkably good for one of his age, a paralytic stroke three years ago leaving no trace but a slight lameness. The immediate cause of his death was bronchitis contracted about six months ago. His great age was a hindrance to his recovery and he gradually failed. Last week his condition took a sudden change for the worse, and on Saturday it was evident that death was near, but he retained his faculties until the last.

Dr. Stillé was married twice. His second marriage occurred in June of last year to Miss Katherine A. Blakiston, who survives him. His son, Dr. Henry Stillé, is a prominent physician in San Antonio, Texas.

Hunter Holmes McGuire, M.D.

Dr. Hunter McGuire, whose death occurred at Richmond, Va., September 18, has been a leading figure in American medicine for the last thirty or forty years. Born in Winchester, Va., in 1835, himself the son of a physician, he received his first medical degree from the Winchester Medical College, in 1855. Desiring to still further complete his medical education, he attended lectures at the Jefferson Medical College in Philadelphia, and took his second degree of M.D. at Richmond, Va., 1860. On the breaking out of the Civil War he enlisted in a Virginia regiment, but was almost immediately commissioned as surgeon, and served in that capacity and as medical director under "Stonewall" Jackson, Ewell and Early throughout the war. He was the first on the Confederate side to inaugurate the recognition of medical officers as non-combatants and their release when taken prisoners. After the surrender at Appomattox he settled in Richmond, where he took the chair of surgery in the Medical College of Virginia, and filled the position until 1878, when the demands of his extensive practice compelled him to give up the active work of teaching. Since this retirement he had been increasing his surgical work and reputation, so that at his death he stood easily among the first in the specialty. In his state and throughout the South generally he was a leader in his profession, and there were few who had a record that so endeared them to their fellow citizens. Dr. McGuire was not a voluminous writer as compared to some, but his contributions to medical literature were nevertheless numerous and valuable, covering many departments of surgery. His abilities had been recognized at home and abroad, and he had held many high active and honorary positions. The estimation in which he was held is shown by his election to the Presidency of The American Medical Association in 1892, an honor shared by few; besides this, he had been Vice-President of the same body in 1881 and of the International Medical Congress in 1876. The other similar high positions he had filled are too numerous to mention; in all he served with dignity and honor. His death was not unexpected, as he had for months been in a very critical condition from a paralytic attack, which from the first caused the gravest fears as to its outcome. In his death his country has lost one of the foremost members of our profession.

Lewis Albert Sayre, M.D.

Dr. Lewis A. Sayre, the father of orthopedic surgery, died at his home in New York City after a long illness, September 21, aged 80 years. He was born February 20, 1820, at Bottle Hill (now Madison), N. J., of good revolutionary stock, his grandfather, Ephraim Sayre, having been a devoted patriot. He received his early education at Madison Academy and at Wantage Seminary, Deckertown, N. J., then lived for two years with relatives in Lexington, Ky., and was graduated in 1839 from Transylvania University. He determined to study medicine, although he had been destined for the ministry, and returning East studied under Dr. David Green in New York, attended lectures at the College of Physicians and Surgeons, from which he was graduated in 1842. His graduation thesis was on "Spinal Irritation." He was immediately appointed prosector to the professor of surgery and occupied that position until 1852, when he was appointed emeritus prosector. In 1853 he was made surgeon to Bellevue Hospital, and in 1859, surgeon to Charity Hospital. He was one of the organizers of Bellevue Hospital Medical College in 1861, and was given the chair of orthopedic surgery, fractures and luxations. From 1859 till 1866 he was resident physician of the city of New York, and during that period made many important contributions to the literature of hygiene and public health. He was one of the first to advocate the establishment of a national quarantine. In 1876 he presented a paper on "Morbus Coxarius" to the International Medical Congress and its treatment he illustrated by operating before the assembly. In 1877, by invitation, he visited Europe and was received as few American surgeons had been. He lectured and made demonstrations and operations at hospitals in London, Liverpool, Manchester, Birmingham and Cork. He received the honor of a resolution of thanks, passed by the British Medical Association, for demonstrations of the methods and details of his treatment of spinal curvatures. He was a prolific contributor to medical literature. His more extensive works are: "An Illustrative Treatise on Spinal Disease and Spinal Curvature," "A Practical Manual of Club-Foot" and "Lectures on Orthopedic Surgery and Diseases of Joints." He was one of the founders of the N. Y. Pathological Society, in 1844, of the N. Y. Academy of Medicine

and of The American Medical Association. He was Vice-President of the latter in 1866, and President in 1880. In addition he was connected in an active or honorary capacity with many American and foreign medical and surgical societies, including the British Medical Association, the Medico-Chirurgical Society of Edinburgh, and the Surgical Society of St. Petersburg. Dr. Sayre was a mechanical genius, and many of his inventions in the way of deformity apparatus, etc., are standard among orthopedic surgeons. He was created a Knight of the Order of Wasa, in 1871, by the King of Sweden in recognition of his services to a member of the royal family. He had been in good health until about a year ago, when he was attacked by inflammatory rheumatism, which, with other troubles incident to his advanced age, so exhausted his strength that he succumbed.

Joseph Neville, M.D., Omaha, Neb., died on August 18. Drs. Peck, Coffman, Tilden, Mercer, Peabody and Neville were the pioneer surgeons of Omaha. Drs. Coffman, Tilden, Peabody and Mercier still survive. Dr. Neville had suffered for a long period with chronic nephritis, but his death was due to cholera morbus, caused by fish ptomain. He was one of the oldest members of the Omaha Medical Society, which passed appropriate resolutions of condolence at its September 11 meeting.

David B. Hillis, M.D., died at his home in Keokuk, Ia., September 9, aged 75 years. He was born in Indiana and received his medical education in the medical department of Washington University, St. Louis, from which he was graduated in 1847. At the outbreak of the Civil War he was commissioned colonel of the 17th Iowa Infantry, and rendered distinguished service. At the close of the war he returned to Keokuk and resumed practice. From 1890 till 1899 he was president of the College of Physicians and Surgeons.

Henry L. Smyser, M.D., the oldest physician in York, Pa., died September 17, aged 75 years. He was a graduate of the department of medicine of the University of Pennsylvania in the class of 1847. He went to California in 1849; in 1856 served in the Russian army as surgeon-major through the Crimean War, and on his return was contract-surgeon in the United States army during the Civil War. At the close of the war he located in York.

Frank Warren Merriam, M.D., of New York City, died in Waterford, Conn., September 16, aged 46. He received his medical degree from the New York University in 1880, and served as an interne of the Charity Hospital, New York City, before entering on general practice. He retired on account of ill-health about six months ago. He vainly sought health at Hot Springs, Ark., and afterward in Europe.

Thomas M. Bowyer, M.D., died at Battle Creek, Mich., recently. He was a native of Virginia, and was graduated in 1853 from the medical department of the University of Pennsylvania, at Philadelphia. During the Civil War he served as captain of Bowyer's Battery. He had been in bad health for several years, and of late had practiced in Las Cruces, N. M.

Edward S. Armstrong, M.D., Perry, Mo., died September 8 from injuries received in a runaway accident the previous evening. He was 65 years of age. He was a graduate of the medical department of Washington University, St. Louis, 1867, and had practiced medicine in Perry for more than thirty years.

S. J. Love, M.D., who was one of the victims of a mysterious poisoning, died after an illness of two weeks, on September 4, aged 28. He was graduated from the Medical College of Virginia, at Richmond, in 1896, and had practiced since that time at Long's Store, N. C.

Alcinous J. Sanders, M.D., of Grand Island, Neb., died, September 13, aged 63. He was a graduate of Long Island College Hospital, Brooklyn, N. Y., in the class of 1863, and had practiced in Grand Island since 1880. He had been an invalid for four years.

W. L. Johns, M.D., died from lung disease at the home of his brother, Dr. H. M. Johns, Ennis, Tex., September 14. He formerly practiced at Alma, but had been traveling for some time in Mexico and the West in the vain endeavor to regain his health.

John McMahon Brown, M.D., a graduate of the University of Dublin in 1868, died from cardiac disease at his home in New York, September 12. For twenty years he was a physician in Dublin and London, but came to New York in 1888.

Alfred J. Masecar, M.D., died suddenly at his home in Monroe, Mich., September 16, aged 61. He was a native of Ontario, and was graduated in 1864 from the medical department of Victoria University, Cobourg, Ont.

Michael F. Honan, M.D., died September 12 at his home in LaGrande, Ore. He was graduated from Bellevue Hospital College in 1879, and had resided in LaGrande for more than twenty years.

Alvin H. Kerr, M.D., Pittsburg, Pa., died September 11, aged 37. He was a graduate of the medical department of the Western University of Pennsylvania, at Pittsburg, in the class of 1888.

George W. McLeod, M.D., died recently at Anderson, Ind., aged 66. He was a native of Kentucky, but had lived and practiced for many years in Indiana.

G. Ruban Lane, M.D., a graduate of the medical department of Grant University, Chattanooga, Tenn., in 1896, died at Flint, Ala., September 14.

Walter L. Hilliard, M.D., Asheville, N. C., died September 4. He was a graduate of Jefferson Medical College, Philadelphia, in the class of 1895.

Arnold Sellner, M.D., St. Louis, died September 14, aged 38 years. He was graduated from Beaumont Hospital Medical College, St. Louis, in 1888.

DEATHS ABROAD.

Prof. Dr. Wilhelm Wagner, a surgeon of ability, died recently at Koenigshuette.

Dr. Domingo Freire died recently at Rio de Janeiro. He was well known by his researches in yellow fever.

Dr. A. Hanau died at Constance, Switzerland, August 24. He was formerly docent of pathologic anatomy at Zurich, and devoted much study to the transmissibility of cancer.

Dr. Thomas Martyn Sibbald, R.N., died recently at Taku, China. He studied medicine at King's College, London, and obtained his M.R.C.S. Eng. diploma in 1875, and his L.R.C.P. Ed. a year later. At the time of his death he was fleet surgeon on board H.M.S. *Centurion*, Admiral Seymour's flagship. His death was directly due to his exertions in behalf of the wounded at Taku.

Therapeutics.

Catarrhal Tonsillitis.

℞.	Formalin	m. xv-xx	1-1	33
	Potassii chloratis	ʒi	4	
	Liquoris ferri chloridi	ʒi	4	
	Aquæ menthæ piperitæ, q. s. ad	℥iv	128	

M. Sig. Use as a spray three or four times a day.

FOR THE FEVER.

℞.	Quininæ hydrobromatis	gr. xii		75
	Sodii benzoatis	gr. xxii	1	50
	Salol	ʒi	4	

M. Ft. capsulæ No. xii. Sig. One capsule every three hours.

—*Sajous' Annual.*

Gastric Cancer.

To relieve pain of gastric cancer and assist digestion:

℞.	Ext. condurango fluidi	℥ii	64
	Acidi hydrchlorici diluti	ʒii	8
	Syrupi acaciæ	℥iv	128

M. Sig. Two teaspoonfuls in water before eating.

—*Exchange.*

Incontinence of Urine.

℞.	Potassii citratis	ʒiss	6	
	Spts. etheris nitrosi	℥ss	16	
	Aquæ, q. s. ad	℥ii	64	

M. Sig. One dessertspoonful every five hours until urine is clear. —*Encyc. Med.*

Gonorrhea.

℞.	Acidi carbolici			
	Acidi tannici, āā	gr. viii		5
	Glycerini	ʒss	2	
	Aquæ	℥i	32	

M. Sig. Use as an injection at night. —*Exchange.*

Mosquito Bites.

℞.	Acidi carbolici	gr. xxx	2	
	Glycerini	ʒiii	12	
	Aquæ rosæ, q. s. ad	℥viii	256	

M. Sig. To be locally applied whenever necessary. —*Exchange.*

Chafing of the Skin.

Where skin surfaces which are in apposition have a tendency to chafe, the following will be found useful:

℞.	Magnesii carbonatis			
	Zinci oxidi			
	Acidi borici, āā	ʒii	8	

M. Sig. Apply to the affected parts. —*Encyc. Med.*

Gonorrheal Vaginitis.

℞.	Methyl blue	ʒiiss	10	
	Alcoholis	ʒiiiss	14	
	Potassii chloratis	gr. iii		20
	Aquæ destil	℥vi	192	

M. Sig. Two or three tampons of cotton wet with this solution and introduce into posterior vaginal fornix, and retain for two days.

Hemorrhagic Metritis.

℞.	Ext. ergotæ fluidi	℥i	32	
	Ext. hamamelidis fluidi			
	Tinct. cinnamomi, āā	℥ss	16	

M. Sig. One teaspoonful every two hours. —Chase: *Med. News.*

Impetigo and Acne.

℞.	Acidi carbolici	gr. x		66
	Glycerini			
	Aquæ rosæ, āā	℥i	32	

M. Sig. Apply locally two or three times a day as a wash. —Gould.

Vaginal Antiseptic.

℞.	Betanaphthol	ʒiv	16	
	Alcoholis	ʒxxx	120	

M. Sig. Use a teaspoonful to the quart of warm water, previously boiled. —*Exchange.*

Fissured Nipples.

℞.	Tinct. benzoini comp	ʒii	8	
	Alcoholis	ʒiv	16	
	Aquæ camphoræ, q. s. ad	℥iii	96	

M. Sig. Shake and bathe the nipples, and apply freely after nursing.

La Grippe in Children.

℞.	Tinct. aconiti	m. v		33
	Sodii benzoatis	gr. xx	1	33
	Syr. lactucarii	ʒiss	6	
	Syr. aurantii	ʒv	20	
	Mucil. acaciæ	℥iiiss	112	

M. Sig. One dessertspoonful every three hours. —Perier: *Med. Record.*

Chloralamid by Rectal Injection.

℞.	Chloralamid	gr. xlv	3	
	Acidi hydrochlor. dil	m. ii		12
	Spts. vini	m. xv	1	
	Aquæ destil	℥iii	96	

M. Give by rectal injection to produce sleep. —*Agenda Ther.*

Oxyuris Vermicularis—Thread Worms.

In cases of oxyuris vermicularis Sidney Martin employs the following:

℞.	Tinct. rhei			
	Magnesii carbonatis, āā	gr. iii		20
	Tinct. zingiberis	gtt. i		06
	Aquæ destil	ʒiii	12	

M. Sig. At one dose, and repeat four or five times a day, according to action. —*Ther. Monatshefte.*

Corns.

℞.	Ext. cannabis indicæ	gr. xv	1	
	Acidi salicylici	ʒiiss	10	
	Olei terebinthinæ	m. lxxv	5	
	Acidi glacial. acetici			
	Cocainæ—alkaloidae—āā	gr. xxx	2	
	Collodion, q. s. ad	℥iii	96	

M. Sig. Apply a thin coat every night on top of preceding one. —*Exchange.*

Rectal Injection of Iodids and Bromids.

The *Therapeutic Gazette* contains an extract from an article of Kobner, published in the *Journal de Méd. de Paris*, in which he recommends the following formula when iodids and bromids can not be taken by the mouth:

℞.	Potassii iodidi			
	Potassii bromidi, āā	gr. xlv	3	
	Ext. belladonnæ	gr. iv		25
	Aquæ destil	℥vii	224	

M. Sig. Add two tablespoonfuls of this solution to three ounces of warm water and inject into the lower bowel once, and if necessary, twice a day.

If a stronger solution is desired, the following prescription may be employed:

℞.	Potassii iodidi			
	Potassii bromidi, āā	ʒii	8	
	Ext. belladonnæ	gr. vii		5
	Aquæ destil	℥x	320	

M. Sig. An ounce of the solution may be given in three ounces of water twice a day by rectal injection.

Societies.

Coming Meetings.

Golden Belt Medical Society, Enterprise, Kan., Oct. 4.

Idaho State Medical Society, Boise, Oct. 4-5.

Utah State Medical Society, Salt Lake City, Oct. 4-5.

Wyoming State Medical Society, Cheyenne, Oct. 9-10.

Mississippi Valley Medical Association, Asheville, N. C., Oct. 9-11.

Iowa State Association of Railway Surgeons, Des Moines, Oct. 11-12.

Vermont State Medical Society, Rutland, Oct. 11-12.

Tri-State Medical Society of Alabama, Georgia and Tennessee, Chattanooga, Tenn., Oct. 11-13.

New York State Medical Association, New York City, Oct. 16-18.

American Public Health Association, Indianapolis, Ind., Oct. 22-26.

Medical Society of Virginia, Charlottesville, Oct. 23.

The McKean County (Pa.) Medical Society met in Bradford, September 4, and elected Dr. John B. Mason, Mt. Jewett, president.

The Medical Society of City Hospital (St. Louis) Alumni met September 20, and discussed the new City Hospital in its various phases.

The Lebanon County (Pa.) Medical Society met at Lebanon, September 11, Dr. Ezra Grumbine, Mt. Zion, in the chair. The discussion was on "Dysentery."

The Olmsted County (Minn.) Medical Society met at Rochester, September 11. Dr. Rollo C. Dugan, Eyota, read a paper on "Hyperemesis Gravidarum."

The Warren County (Pa.) Medical Society, at its meeting September 12, elected Dr. William V. Hazeltine treasurer, vice Dr. John Curwen, resigned.

The York County (Pa.) Medical Society met September 7 at York, Dr. Alfred A. Long, York, read a paper on "The Coal-Tar Products," and Dr. Isaac C. Gable spoke on the prevalence of typhoid fever in York.

The Winnebago County (Ill.) Medical Society met at Rockford, September 11. Dr. Thomas N. Miller presided. In his address Dr. Harold N. Moyer, Chicago, declared that the general practitioner was now the people's doctor and that the day of the specialist had passed.

The Ann Arbor (Mich.) Medical Club met at the house of Dr. John A. Wessinger. Dr. Victor C. Vaughan gave an exhaustive address on "Hydrophobia," which was discussed by Drs. Frederick G. Novy and Conrad Georg.

The Salt Lake (Utah) Medical Society was addressed at its September 10 meeting by Health Commissioner King, who spoke on the sanitary conditions of the city, and advised the erection of a large central garbage crematory, with smaller crematories in various districts of the city.

The Mercer County (Mo.) Medical Society was organized at Princeton, August 30, and the following officers elected: Dr. Fred S. Blachly, Modena, president; Dr. Dolph D. McHenry, Princeton, vice-president; Dr. Charles R. Buren, Modena, secretary; and Dr. David W. Reed, treasurer.

The Montgomery County (Ill.) Medical Society was reorganized at Hillsboro, after a lapse of thirteen years, with a membership of about forty. The following officers were elected: Dr. William W. Douglas, Hillsboro, president; Dr. James F. Blackwelder, Litchfield, vice-president; Dr. Joseph M. Trigg, Farmersville, secretary and treasurer.

The Pasadena (Cal.) Medical Society held a symposium on "Typhoid Fever," September 11. Dr. Alfred C. Croftan discussed the clinical microscopy and chemistry; Dr. Francis F. Rowland, the etiology; Dr. Fordyce Grinnell, the symptomatology; Dr. Lorenzo Lockard, the laryngeal manifestations; Dr. George S. Hull, the eye and ear symptoms, and Mrs. David B. Van Slyck and Charles G. King, the treatment.

The Inland Empire Clinical Society met at Spokane, Wash., September 4. Dr. Alexander F. MacLeod read a paper on "The Paste Treatment of Certain Varieties of Cancer," and Dr. James M. Powell, one on "Autoinfection." Dr. Powell was elected a member of the board of censors, vice Dr. Nathan A. Goddard, removed from the city, and Dr. Charles P. Thomas was elected permanent secretary in place of Richard H. Van Heusen, who had also left Spokane.

The Muskingum County (O.) Medical Society held its annual meeting at Zanesville September 13, and elected the following officers: Dr. William A. Melick, Zanesville, president; Dr. William R. Hosick, Adamsville, first vice-president; Dr. Charles A. Dunn, Stovertown, second vice-president; Dr. David J. Matthews, Zanesville, recording secretary; Dr. Anna M. Hill, Zanesville, corresponding secretary, and Dr. Wilbert C. Bateman, Zanesville, treasurer.

The Rhode Island Medical Society held its quarterly meeting in Providence, September 6, president George D. Hersey in the chair. A paper was presented by Dr. Barnard Arnold, Rockland, on "The Eruptions attending Epidemic Influenza"; Dr. Halsey De Wolf, Providence, gave a brief account of the work of the Lying-in-Hospital during the past fifteen years, and John W. Mitchell spoke on the same subject. The president delivered the annual address on "The Medical Library as a Factor in Medical Progress."

The Medical College of Indiana, medical department of the University of Indianapolis, opened September 25. The changes in the faculty include the promotion from lectureships to professorships of Drs. Frank B. Wynn, pathology; John W. Sluss, anatomy; John F. Geis, toxicology and forensic medicine; Edmund D. Clark, surgical pathology, and William M. Wright, surgical anatomy, minor and clinical surgery. The new lecturers are Drs. Charles E. Ferguson, diseases of women; Norman E. Jobes, osteology; Alois B. Graham, gastro-intestinal surgery; Roscoe H. Ritter, physiology; Frederick R. Charlton, genito-urinary diseases, and Prof. M. E. Crowell, of Franklin College, physics. It is the intention of the faculty to erect a building for chemical and biological laboratories during the year.

The Upper Des Moines (Ia.) Medical Association met in Estherville, September 12. President Dr. Quintus C. Fuller, Milford, delivered the annual address, and papers were read by Dr. A. Anderson, Estherville, on "Forceps in Obstetrics"; Dr. G. G. Fitz, Emmetsburg, on "Therapy of Oils," which elicited considerable adverse discussion; Dr. Maurice E. Wilson, Estherville, on "Rheumatism; Dr. Charles S. Shultz, Lake Park, on "Preventive Inoculation"; Dr. Charles B. Fountain, Spirit Lake, on "The Doctor and the Druggist"; Dr. Gilbert G. Cottam, Rock Rapids, on "Fractures"; Dr. Royal G. Hamilton, Ocheyedan, on "The Use of Kerosene in Intestinal Obstructions," and Drs. Charles S. Shultz, Lake Park, and Charles B. Fountain, Spirit Lake, discussed the use of oxygen gas in pneumonia.

The Pennsylvania State Medical Association held its fiftieth annual meeting at Wilkesbarre, Sept. 18-21, President George W. Guthrie, Wilkesbarre, in the chair. About 200 delegates were present from all portions of the State. The visitors were welcomed by Mayor Nichols and Dr. Henry M. Neale, Upper Lehigh, President of the Luzerne County Medical Society. A large number of interesting papers were read and received due discussion. A resolution was introduced by Dr. Lewis H. Taylor, Wilkesbarre, calling on the Legislature to enact a law to prevent the pollution of the streets of the state. The following officers were elected: Dr. Thomas D. Davis, Pittsburg, president; Dr. William B. Ulrich, Chester, first vice-president; Dr. Lewis H. Taylor, Wilkesbarre, second vice-president; Dr. Augustus A. Eshner, Philadelphia, third vice-president; Dr. Martin L. Herr, Lancaster, fourth vice president; Dr. Cyrus L. Stevens, Athens, secretary; Dr. Walter L. Pyle, Philadelphia, assistant secretary; Dr. George Dunmire, Philadelphia, treasurer. The next meeting will be held in Philadelphia, the third Tuesday in September, 1901.

American Association of Obstetricians and Gynecologists.

Thirteenth Annual Meeting, Louisville, Ky.

Sept. 18-20, 1900.

Dr. Rufus B. Hall, Cincinnati, in the chair.

Dr. Lewis S. McMurtry, Louisville, welcomed the Association on behalf of the local medical profession. The Address of Welcome was responded to by President Hall.

ERRONEOUS OBJECTIONS TO BILATERAL INGUINAL CELIOTOMY AND SHORTENING OF ROUND LIGAMENTS VIA DILATED INTERNAL INGUINAL RINGS, AND ITS SUPERIOR ULTIMATE RESULTS IN SIMPLE AND COMPLICATED ASEPTIC RETROVERSIONS OF UTERUS.

Dr. A. Goldspohn, Chicago, read a paper with this title. He laid stress on cutting only through the skin and fat and making the required opening through the aponeurosis, the canal and the internal ring bluntly. The ring is very readily dilated sufficiently to admit one or, if needed, two fingers, and to admit of drawing out the tube and ovary for the exercise of the highest degree of delicate and exact conservative surgery on them without doing violence to their supports. The wound is closed in four layers, *à la* Bassini. In the second layer the round ligament becomes placed as in a sandwich between the posterior surface of Poupart's ligament and a good bundle of elastic muscle at each stitch, which makes hernia impossible and saves the ligament from strangulation while it holds it firmly enough against Poupart's ligament to secure a broad union. Hernia has not followed the writer's operation in fully 125 cases that he has examined or from which he has had reports. As the internal inguinal ring is just in front of the normal lateral location of the ovary and ampulla of the tube, these organs and the posterior surface of the uterus can be reached by one finger in a one-inch opening here, as well as by two fingers in a two-inch opening in the linea alba midway between the symphysis and the umbilicus; and for the necessary access to the pelvic wall to shorten the proper suspensory ligament of the ovary and tube, this small opening serves well; while a large median ventral incision and much traumatism of viscera by that route would be needed and by the vagina it can not be done at all. The round ligaments are always present, if the uterus is. He has never had a death from the operation; but one case died from a serious renal complication that was not previously discovered, owing to an exchange of samples of urine by a nurse. Thorough shortening of the round ligaments via their natural channels and anchoring forward—not laterally—is the only operation that has been proved, or is likely to be proved, to stand what the writer demands as the normal standard for all operations of this kind, and has called it the "double test of pregnancy," i. e., that they do not embarrass gestation and complicate labor, which is the single test, but also do not permit a recurrence of retroversion of the uterus after one or more subsequent labors. The difficulties in diagnosis as to presence of pus are no more than proficient gynecologists will meet successfully, and doubtful cases can be cleared up by ten to fourteen days in bed with temperature douches and extensive fomentations. The scars being in the groins, and covered mostly by hair, are not seen like regular laparotomy scars.

Dr. Charles G. Cumston, Boston, in the discussion, said that from his experience in operating both by the abdomen and vagina, as well as from a pathologic standpoint, it has always seemed to him that serious lesions of the adnexa, such as the essayist had treated through a bilateral inguinal incision, were usually out of reach, and that these lesions could be dealt with more easily and satisfactorily through a median, a posterior or anterior vaginal incision. Simple, uncomplicated cases of retroversion are rare. The Alexander operation in the so-called simple cases of retroversion can be greatly improved by an additional operation through the cul-de-sac.

Dr. Edward J. Ill, Newark, N. J., called attention to the modified operation which was proposed by Dr. H. W. Longyear, of Detroit, at the meeting of the Association last year.

Dr. J. Henry Carstens, Detroit, rarely sees cases of plain, uncomplicated, non-adherent retroverted uteri that require the Alexander operation. The complicated cases of retroversion require some other operative procedure.

Dr. W. E. B. Davis, Birmingham, Ala., referred to the indications for performing the Alexander operation, and called attention to the class of cases in which it should be performed.

Dr. Frederick Coggshall, Boston, said he had performed over a hundred Alexander operations in combination with some other operative procedure.

Dr. Rufus B. Hall, Cincinnati, thinks that the old operation of anterior fixation or ventrosuspension of the uterus is not as popular as it was a few years ago. Soon it will be done only in rare instances. He believes, however, that a modified operation, such as that advocated by the essayist, is based on rational surgical principles, and thinks that the author is working in the right direction.

ROUND LIGAMENT VENTROSUSPENSION OF THE UTERUS.

Dr. D. Tod Gilliam, Columbus, Ohio, in this paper, said that various devices have been resorted to for restoring and holding in place the retrodisplaced uterus. All of these have been faulty and many absolutely prejudicial. The need of the hour is an operation that will utilize the natural supports of the uterus, that will insure a fair amount of mobility, that will adapt itself to the various functions of the uterus—pregnancy and parturition—and that will be lasting in its results, and withal easy of execution. Profiting by the work of Ferguson along this same line, he has devised an operation which he thinks fulfils all these indications, and solves the problem most satisfactorily. The steps of the operation are as follows: 1. A median abdominal section three or four inches in length at the usual site between the umbilicus and pubis. 2. The adhesions are broken up and the fundus brought forward, after which the patient is placed in the Trendelenburg position. 3. Seize the round ligament on one side and bring it to the opening. This may be done either by the fingers or by the aid of forceps. 4. Carry a thread under the ligament at a distance of about one and a half inches from the uterus. The free ends of the thread are brought out of the abdomen and secured by clamp forceps. 5. The other round ligament is secured in the same way. 6. Expose the rectus muscle near the lower end of the incision by retracting its sheath and by rolling it out of its sheath on the tips of two fingers applied to the peritoneal surface under it. 7. Select a point one inch external to the margin of the incision and something over an inch above the pubis, through which the perforating forceps, specially devised for this purpose, is thrust into the peritoneal cavity. The two fingers already in the cavity guard the instrument in its passage and place the thread which surrounds the ligament within its jaws. 8. The perforating forceps is now withdrawn, after removing the clamp forceps from the thread, and both thread and ligament are brought up through the perforated wound in the abdomen. 9. While the ligament is held taut, fasten it into the wound by a to-and-fro catgut suture passed deeply through the ligament and including the tissues on either side. 10. Treat the opposite side in the same manner and close the median abdominal incision. Only a small loop of the ligament should be drawn up through the wound.

A CASE OF COMPOSITE TERATOMA OF THE OVARY.

Dr. W. E. B. Davis, Birmingham, Ala., read a paper on this subject. The author is in doubt as to the nature of the tumor, notwithstanding the above diagnosis was made by pathologists of high standing.

Mrs. N., aged 34, married, was the mother of three children, had always menstruated regularly, except when pregnant or nursing. She noticed a growth in the abdomen two years ago. She had menstruated in January before the growth was noticed, and then missed her periods until March, at which time she menstruated or bled very freely for two weeks. She then missed periods until the following October, with no untoward symptoms except an attack of colic in August. The movements were noticed before August. After October she menstruated regularly until the following January, missed her periods then until October 24, 1899, when a child was born. She has not menstruated since. After the birth of the child at term, the tumor developed quite rapidly, and on May 7, 1900, she was operated on, and was discharged as cured June 9. The tumor was quite large and had a pedicle nearly two inches in breadth, quite thick, and which was attached to the uterus. The fetus was so large and so well formed that the essayist was of the opinion that there had been an ectopic gestation, with rupture of the gestation sac and the expulsion of its contents into the cavity of a pre-existing ovarian cystoma. From the history of the case, the diagnosis had been made of an old ectopic pregnancy. He is still inclined to that opinion.

TREATMENT OF CHRONIC CYSTITIS BY CURETTEMENT OF BLADDER, AND INSTILLATIONS OF CORROSIVE SUBLIMATE.

Dr. Charles Greene Cumston, Boston, read this paper and therein drew the following conclusions: 1. Sublimate instillations will often produce a very great improvement in the distressing symptoms met with in both tuberculous and non-tuberculous cystitis, such as a diminution in the frequency of micturition, a decrease of the pain, an increase in the capacity of the bladder and an improvement in the condition of the urine. In some cases a complete cure may be had. 2. When the instillations fail to produce the desired effect, curettement of the bladder is indicated in both tuberculous and non-tuberculous cystitis. 3. In gonorrheal cystitis instillations of sublimate are very efficacious and rapidly subdue pain. 4. Under favorable circumstances a radical cure of primary tuberculous cystitis may be obtained by curettement when the vesical lesions are localized and the kid[illegible] fr[illegible] disease. Curettement per urethram will n[illegible] to re[illegible] the entire surface of the bladd[illegible] extensive they should be direct[illegible] omy. 5. Much relief may be afforded to a large number of patients suffering from tuberculosis of the bladder, but who on account of the advanced stage of generalized infection are in no condition to undergo a more radical operation. 6. When cystitis is due to a prolapsus of the genital organs, and when hysteropexy, combined with anterior and posterior colporrhaphy does not relieve the bladder symptoms, curettement of the bladder, followed by sublimate instillations, is the proper treatment.

Dr. A. Goldspohn does not believe that infiltrations, etc., of the bladder can be recognized by the curette at an early stage of the diseased process. With this instrument the operator can not detect beginning ulcerations or papillomatous growths in this organ. Curettement of the bladder is entirely different from that of the uterus, in that the operator does not receive the tactile information of intelligence from this instrument in the bladder that he obtains from it in curetting the uterus. Scraping the bladder, therefore, is done largely at random, without any touch sensation to govern the operator as to how little or how much surface he shall curette. Under such circumstances it is not rational to assume that the mucous lining of the bladder will be evenly and uniformly curetted. Uneven surfaces or small areas would be left untouched. In the treatment of infectious cystitis, not tubercular, he has obtained good results from a solution of .5 to 1 per cent. of oil of cloves in water.

Dr. J. Henry Carstens agrees with the last speaker that there are certain points in the bladder that can not be reached by the curette. He has had cases of tubercular, gonorrheal and septic infections of the bladder which have yielded to the judicious application of permanganate of potash.

Dr. Edwin Ricketts has never tried this method of treating cystitis in the female, but it seems to him plausible, and he is inclined to try it.

Dr. Rufus B. Hall directed attention to the danger of overdistention of the bladder with injections. Distention of the organ up to the point of causing discomfort to the patient should be the limit of safety.

Dr. James T. Jelks concurred in the statement of Dr. Carstens that permanganate of potash is an invaluable remedy for infective disease of the bladder, particularly of the gonorrheal variety. A solution of 1 to 6000 is strong enough to begin with, the strength being increased in accordance with the indications of the particular case.

Dr. T. J. Crofford, Memphis, has performed curettage of the bladder several times. If the inflammatory process is confined to the neck or thereabouts, there is very little difficulty attending the curettement of that area of surface. No inflammatory zones would be left to cause further trouble.

Dr. Goldspohn does not wish to be understood as opposing curettement of the bladder *in toto*, but believes it ought to be done under the guidance of the eye or tactile sense.

Dr. Cumston, in closing, referred to the pathology of bladder lesions and said they were almost always situated in the trigonum, consequently this is the portion of the viscus which the operator should strive to reach. If the whole bladder surface is involved, suprapubic cystotomy is the operation of choice, and curettement in such a case would do very little, if any, good. He uses the cystoscope in the treatment of this class of cases.

FOUR CASES OF PERFORATED GASTRIC ULCER.

Dr. Henry Howitt, Guelph, Ont., read this paper. The first two cases occurred years ago before the operative procedures were commonly known, and had the usual termination, one dying within twenty-four hours from the commencement of the illness without having had a single symptom indicating the existence of the trouble. The other two reported by him are of recent date, and the patients were saved by timely operations. In one the operation was devoid of any serious difficulty, but in the other the abdomen contained gas and a large amount of pus, the colon was enormously distended, requiring to be opened, and collapsed before the stomach could be reached. There existed also the remains of a ruptured abscess cavity below the transverse portion of larger bowel, the walls of which were formed by it together with the coils of small intestine and omentum. This had its origin probably in a slight leakage which occurred days before the final rupture. The orifice of the ulcer was of sufficient caliber to admit his little finger, and was situated in front close to the pyloric valve. The surrounding parts were so thickened, dense and nodular as to exactly resemble carcinoma of the pylorus and adjacent parts of the stomach. A section nearly two inches in length had to be removed before the ulcer could be closed. The intestines were previously eviscerated to permit of the room necessary to reach the part and to expose the pools of pus in the pelvic flanks and other places difficult to reach. The upper portion of the jejunum was anastomosed by means of a Murphy button to the anterior wall of the stomach. Before doing so care was taken to allow for every possible movement without causing tension of the proximal arm of gut. After the anastomosis was completed, the arm of intestine above was stitched to the wall of the stomach an inch or more to the right and a little above the line of the button. This procedure in his opinion overcomes the acute angle and its ill-effects. Drainage-tubes were inserted through perforations made in the flanks well to the back and in the lower abdomen close to the pelvis, to the outer side of the right rectus muscle. The sutures were all removed, except two in the middle of the wound opposite the umbilicus, on the seventh day. Three hours later the patient had a sneezing fit, and the wound tore open from the upper angle to the umbilicus, exposing the situation of anastomosis, and coils of bowel protruded. It was restitched an hour later without anesthesia, and no ill-effects followed. The patient made an uneventful recovery, and is now for the first time in eighteen years free from gastric distress.

Dr. Richard Douglas, Nashville, Tenn., has had two cases of perforating ulcer of the stomach in which he urged operation, and while preparations were being made to operate on one of them, the patient died. In the other operation was refused. Death ensued some time later. Post-mortem examination in this case revealed a perforating ulcer on the posterior wall of the stomach; while in the other case the ulcer was confined to the lesser curvature.

Dr. James F. W. Ross, Toronto, called attention to the difficulty attending the diagnosis of gastric ulcer in some cases. He had operated successfully on one case of perforating gastric ulcer. The patient did not know that she had anything seriously the matter with her.

Dr. Charles Greene Cumston mentioned a case in which there was an ulcer of the stomach and one in the vagina, of embolic origin, associated with arteriosclerosis.

Dr. Edwin Ricketts narrated the case of a woman, 48 years of age, who had had a gastric ulcer for three years. Under rectal alimentation she gained sixty pounds in flesh. Subsequently she committed some indiscretion in diet, was again taken sick, and consulted another physician, who made a diagnosis of cancer of the pylorus. She went from bad to worse, and finally died. Post-mortem examination revealed a perforating gastric ulcer the size of a lead pencil, situated on the anterior surface near the pylorus.

Dr. A. Vander Veer, Albany, spoke of two cases of gastric ulcer which ultimately resulted in carcinoma of the pyloric end of the stomach. From the number of cases in which he has done gastrointestinal anastomosis, he is satisfied that he has had to deal with the cicatrices resulting from gastric ulcers in many instances.

SOME POINTS REGARDING THE SURGERY OF THE GALL-BLADDER.

Dr. A. Vander Veer, Albany, N. Y., presented the above paper:

No great reliance is now placed on jaundice as a positive symptom. Four interesting and instructive cases are reported, and the following conclusions drawn: 1. An early diagnosis of cases. 2. In suppuration of the bladder with adhesions, a most thorough examination should be made from within by digital exploration and use of the probe for any possible deep-seated calculi. 3. In prolonged operations on the common duct or hepatic ducts, where adhesions are present, and it is difficult to close the incision, after removal of the calculus; drainage through the peritoneal pouch by means of the lumbar stab is advisable. 4. When the patient is suffering seriously from cholemia, with marked ecchymotic spots over the body, intense itching, the blood found in a septic condition, an operation is not to be encouraged; it is too late in the vast majority of cases for the patient to recover. 5. General practitioners as well as the surgeon should place more earnestly before the patient and friends the dangers of repeated attacks of gall-stone irritation resulting in cancer of the ducts, stomach or liver.

DIAGNOSIS OF ECTOPIC GESTATION BEFORE RUPTURE, BASED ON ELEVEN CASES.

Dr. James F. Baldwin, Columbus, said that in a large number of cases an early diagnosis is entirely feasible and will be made as a routine when the attention of intelligent general practitioners is sufficiently directed to the subject. He said that while there are no pathognomonic symptoms of tubal pregnancy, the following points will usually be found in these cases: The patient gives a history of several years of sterility (many exceptions); she has missed a menstrual period, two of them (numerous exceptions); she has noticed some unusual pains in the pelvis, boring, griping, or colicky in character, these pains being situated usually in the region of an ovary. She has perhaps within a few days of the time of consulting her physician had a more or less irregular hemorrhage; perhaps has discharged pieces of membrane which she supposed indicated an abortion, and consults her physician with the idea that such is the case, owing to the hemorrhage and the pain and the suspicion of an existing pregnancy. Possibly, however, there has been no suspicion of a pregnancy, as the woman has accepted her sterility as incurable and has dismissed from her mind such a possibility.

On making a vaginal examination, if the conditions are favorable, the examiner will find on one side of the uterus, or back of it, a fusiform, quite well-defined cystic tumor, about the size of a pullet's egg or a little larger. This tumor will probably be quite tender on pressure, will be quite symmetrical in outline, and will usually be distinctly pulsating. When such a tumor is found in a woman in whom we have reasonable grounds to suspect a pregnancy; when the uterus at the same time is found somewhat enlarged, and having the feel of pregnancy, but not enlarged as much as one would expect in a pregnancy of so long continuance as the history indicates, a presumptive diagnosis of tubal pregnancy is warranted, and the matter of an operation should be carefully and without delay considered. To render the early diagnosis of ectopic pregnancy possible, it is necessary for physicians to learn to suspect it, and to examine patients with that suspicion in mind. The physician who, without making any examination, tells all middle-aged women who come to him complaining of irregular hemorrhages that they are merely having the change of life, will not likely make an early diagnosis of cancer of the uterus, and he will probably tell patients who come to him with symptoms of ectopic pregnancy that they are merely threatened with a miscarriage. He will make no further investigations, and will hence uniformly fail to make a diagnosis. The physician, however, who, having in mind the possibility of an ectopic pregnancy, thoroughly examines all patients whose history and symptoms point to this condition, will in a large proportion of cases make a correct diagnosis and by prompt intervention will achieve a signal triumph for himself and his profession.

Dr. Charles A. L. Reed said that to make a diagnosis of tubal pregnancy before the time of rupture, it is necessary to have the patient under observation constantly for a considerable length of time. He had encountered such a case about seven years ago, the details of which were narrated.

Dr. L. H. Laidley said the only diagnosis of ectopic pregnancy he had ever made was in a case of cancer of the uterus where there was no rupture. He did not suspect the existence of it until he had removed the tubes and had found indications of a developing fetus within the tubes.

Dr. Zinke, Cincinnati, thinks the diagnosis of ectopic gestation is easy in some cases if the gynecologist has certain symptoms to guide him, namely, loss of blood, either scanty or profuse, attended with pain, and a tumor, pulsating in character, found on one side of the uterus. In other instances, however, the diagnosis is very obscure, particularly in those cases in which the ectopic gestation is complicated with a normal pregnancy. Such a case was narrated.

Dr. D. Tod Gilliam said that if the gynecologist could diagnose most cases of ectopic gestation before rupture has taken place, it would prove a great boon to womankind. A distinction between tubal pregnancy and inflammatory conditions should always be borne in mind.

Dr. J. Henry Carstens does not think cases of extrauterine pregnancy are as common as the profession generally supposes. The average general practitioner with a good practice observes but very few such cases in a lifetime. He spoke of the difficulty in diagnosis, and said that when this condition was expected and operated for, something else is found.

SURGICAL TREATMENT OF UTERINE DISPLACEMENTS.

Dr. Charles A. L. Reed, Cincinnati, contributed this paper. Attention was called to a couple of modifications of technique in the management of a class of cases that is happily becoming less and less perplexing. It is not the author's purpose to discuss the relative merits of Alexander's and Mann's operations, nor to consider the ingenious technique of Ferguson. In a majority of cases of retrodisplacements that demand operation, the author believes that the intraperitoneal shortening of the round ligaments is the operation of choice. It has been his habit during a number of years to effect this by making an S-fold in the ligaments and stretching them thus folded to the parietal peritoneum along the line of Poupart's ligament. This method has yielded him better results than any which he has previously tried. He has, however, become convinced that the parietal fixation of the folded ligament is not necessary for the purpose of holding the uterus in its normal position, and that the technique devised by Mann is all that is required to accomplish this object. His application of this technique differs a little from that originally adopted by Mann, the modifications being those of convenience rather than of necessity. We give these modifications in the language of the author: ".In seizing the round ligament with hemostatic forceps for the purpose of folding it on itself, the tissues are frequently wounded. While the accident is not a serious one, it is certainly not desirable. The use of two hemostatic forceps for the purpose of effecting the fold makes the services of two hands of an assistant necessary. To obviate these objections, which though of minor importance are still objections, I have devised a forceps with four flat approximating prongs, the whole being an inch across. The prongs of the opposing blades approximate with sufficient force to hold the ligament, but not enough to induce tissue necrosis; while, when approximated, they are far enough apart to permit the passage of a medium-sized needle between them. The ligament brought up into the field of operation on the finger, is seized in its middle third by this instrument, which is then held in this position until all of the sutures are applied. These are inserted as follows: One interrupted, one fixing the loop of ligament to the cornua of the uterus; a similar suture is utilized to fix the outer fold of the ligament; a continuous suture is then passed between the prongs of the fixation forceps, its ends being obliquely tied after the instrument is withdrawn.

"A pathologic condition that often exists in cases of long-standing flexions and the persistence of which militates against the success of any fixation operation, consists of an atrophy of the concave wall and a hypertrophy of the convex wall at the point of flexure. In many of these cases, particularly when associated with diffuse fibrosis, the elongated and hypertrophied wall offers a persistent resistance to the maintenance of the normal axis of the organ. To overcome this I have, for some time, [illegible] a cu[illegible] segment from the hypertrophied wall, [illegible] on [illegible] Thi[illegible] cuneo-hysterectomy, and which is applicable in either anterior or posterior flexions. To do this the patient is placed in the Trendelenburg position. All adhesions between the uterus and bladder, or between the uterus and other organs, are carefully broken up, any rents in the serosa that may be induced thereby being carefully stitched. The uterus is then brought toward the incision by gentle, but firm, traction and an ellipse of tissue about 1 cm. wide and having a length corresponding to the breadth of the organ is removed from the convex side at the site of flexure. Care must be taken not to carry this dissection into the cavity of the uterus nor to wound either the circular artery or the anastomosing branches of the uterine artery. Should the latter accident occur, it is best controlled by en masse ligatures, passed deeply into the uterine tissue at either end of the yet gaping ellipse. Retraction of the vessels generally prevents their isolation and closure by direct ligature which, when practicable, is always the preferable method. After all hemorrhage, except mere capillary oozing, is controlled, the margins of the ellipse should be carefully approximated and closed by a continuous animal suture with two or three interrupted ones of the same material. The uterus is then dropped back, and after pausing a moment to make sure of complete hemostasis, the abdomen is closed without drainage. A further modification of this operation that I have practiced with satisfaction in anteflexion consists in stitching a reef of the posterior surface of the uterus. I have been able by these combined methods to relieve the most distressing and persistent symptoms, vesical, uterine, ovarian and neurotic, due to otherwise intractable anteflexion of the womb."

(To be continued.)

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Philadelphia Medical Journal, September 15.

1 *Neurasthenia. J. T. Eskridge.
2 *Mental Disturbances After Operations Upon the Eye. William Campbell Posey.
3 *Resolution as an Etiological Factor in Postcritical Temperature of Lobar Pneumonia in Children. William N. Fisher.
4 Inversion of Uterus; Uterine Inertia; Short Cord. Edward K. Bacon.
5 A Few Cases of Diphtheria and What They Taught Me. John Leverett.
6 Postdiphtheric Paralysis of Both External Recti Muscles—Report of a Case. Harry Friedenwald.

New York Medical Journal, September 15.

7 *The Treatment of Tuberculous and Purulent Joints with Large Glass speculum Drainage and Pure Carbolic Acid, with a Report of Seventy Cases. (Conclusion.)
8 Generalized Tuberculous Lymphadenitis, with the Clinical and Anatomical Picture of Pseudoleukæmia; The Study of a Case. Thomas R. Crowder.
9 *A Consideration of the Statistics of Operations for the Relief of Malignant Disease of the Larynx. D. Bryson Delavan.
10 *Were These Unusual Cases of Partial Paralysis of the Vocal Bands Caused by Over-use of the Telephone? Clarence C. Rice.
11 The Lingual Tonsil. Robert Levy.

Medical Record (N. Y.), September 15.

12 *Poisonous Snakes and Snake Poison. Gustav Langmann.
13 *A Few Cases of Erosions of the Stomach. Edward Quintard.
14 *The Radical Treatment of Tuberculosis of the Tonsils. Alexis V. Moschcowitz.
15 *A Clinical Study of the Liver as a Factor in Elimination, and in the Production of Nephritis. George E. Davis.

Medical News (N. Y.), September 15.

16 *A Simple and Efficient Treatment of Talipes Calcaneus Paralyticus in Young Children. V. P. Gibney.
17 *In What Relation Does Occupation Stand to Tuberculosis? W. Freudenthal.
18 *Multiple Traumatic Hemorrhages of the Liver Associated with Multiple Pulmonary Emboli of Liver-Cells and Giant Cells Resembling Bone-Marrow Cells. Aldred Scott Warthin.
19 *Post-Apoplectic Temperature and Disturbances of the Alimentary Tract: Their Management. Henry Lyle Winter.

Boston Medical and Surgical Journal, September 13.

20 *The Radical Cure of Hernia. J. Collins Warren.
21 *Actinomycosis. Charles Allen Porter.
22 *Four Cases of Actinomycosis. John C. Munro.
23 Tendon Suture. Edward S. Hatch.
24 A Method of Teaching Practical Medicine. Thomas F. Harrington.

St. Louis Medical Review, September 15.

25 Recurring Parotitis in a Healthy Child Persisting for Ten Years. Fayette C. Ewing.
26 Immunity. H. Buchner.

Cincinnati Lancet-Clinic, September 15.

27 *Reflex Action of Disturbed Pelvic Mechanism on the Heart. Byron Robinson.
28 The Home and the School. E. Stuver.

Medical Fortnightly (St. Louis), September 10.

29 Diseases of the Stomach. (Continued.) J. M. G. Carter.
30 The Physiology of Voice Production. M. A. Goldstein.
31 A Rare Condition of the Male Sexual Organs. Edward Bowe.

Journal of Nervous and Mental Diseases (N. Y.), September.

32 Discussion on the Neuron Doctrine in Its Relationship to Disease of the Nervous System. (a) The Anatomic Cytological Relationship of the Neuron to Disease of the Nervous System. Lewellys F. Barker.
33 *(b) The Pathologic Changes in the Neuron in Nervous Disease. William G. Spiller.
34 *(c) How Does the Neuron Doctrine Affect the Conception of Nervous Disease. B. Sachs.

Kansas City Medical Index-Lancet, September.

35 *Modern Surgical Treatment of Hemorrhoids. Gustavus M. Blech.
36 The Microscope in General Medicine. A. P. Rooney.
37 Gonorrhea. Mayer Shoyer.
38 Management of Normal Labor. J. H. Cox.

American Journal of Insanity (Baltimore, Md.), July.

39 *A Century of Hospital Building for the Insane. Jos. G. Rogers.
40 *A Review of Chronic Progressive Chorea (Huntington's), with Report of a Case. Clarence A. Good.
41 *Death From an Unusual Cause in a Case of Dementia Paralytica. H. J. Berkley.
42 The Study of a Year's Statistics. Chas. W. Pilgrim.
43 *Separate Provisions for Tuberculous Patients in State Hospitals for the Insane. Arthur H. Harrington.
44. Legal and Medical Insanity. Reflections Upon the Recent Trial and Conviction of Bradford P. Knight at Augusta, Me. C. P. Bancroft.
45 *The State of New York and the Pathology of Insanity. P. M. Wise.
46 *Suicide and Its Increase. G. Styles.
47 *Further Laboratory Studies on Uric Acid in Neurasthenia, and on Autointoxication in Nervous Disease. F. Savary Pearce.
48 *Degeneracy. Orpheus Everts.
49 Three Cases of General Paralysis in Young Women. W. L. Worcester.
50 *Degenerates in the Army. Chas. E. Woodruff.

Iowa Medical Journal, August.

51 Ectopic Gestation. Charles F. Smith.
52 The Country Doctor. S. K. Davis.

Yale Medical Journal (New Haven, Conn.), September.

53 The Discovery of the Germ Theory and Antisepsis. N. E. Wordin.
54 Hystero-Myomectomy Complicated with Pregnancy. William H. Carmaly.
55 Diagnosis of Neurasthenia. Gustavus Eliot.
56 Acquired Syphilitic Disease Within the Cranium. Max Mailhouse.

Pediatrics (N. Y.), September 1.

57 *Enuresis and "Irritable Bladder" in Children. Frederic Bierhoff.
58 Scorbutus Infantilis. R. B. Gilbert.

Physician and Surgeon Ann Arbor, Mich.), August.

59 Medical Education. Austin W. Alvord.
60 *Etiology of Tuberculosis. Charles T. McClintock.
61 Chronic Gastritis. J. B. Whinery.
62 *Some Causes of Appendicitis. Frank B. Walker.
63 *Ischio-Rectal Abscess. William L. Dickinson.
64 *The Materia Medica of Pichi. Noah E. Aronstam.
65 The Anatomy of the Fifth Nerve in its Relation to the Etiology and Treatment of Trifacial Neuralgia. (To be continued.) Edward K. Bacon.

Fort Wayne Medical Journal, August.

66 Eye Strain. Albert E. Bulson.
67 Relation of the Kidneys to Disturbed Visceral Mechanism, Especially from the Genitals. Byron Robinson.
68 Management of Labor—Interesting Cases and Statistics. Luella M. Derbyshire.

Western Medical Recorder (Chicago), July and August.

69 *A Plea for the Unborn. Edward E. Evans.
70 *Treatment of the Sac in Very Large Inguinal Herniæ. M. L. Harris.
71 *Notes on Treatment of Infected Wounds by Continuous Submersion. Fred Jenner Hodges.
72 *Notes on the Diazo-Compounds and the Diazo-Reaction. J. H. Salisbury.

Toledo Medical and Surgical Reporter, September.

73 Report of a Case of Delayed Union after Cataract Extraction. Charles Lukens.
74 Malaria. J. T. Woods.
75 Neglected Branches of the Art of Medicine. J. D. Albright.
76 Eucalyptol for Pulmonary Tuberculosis. M. J. Lolliot.

Canadian Journal of Medicine and Surgery (Toronto), September.

77 *Club-Foot in the Adult. B. E. McKenzie.
78 Case of Malignant (?) Disease of Gall Bladder, Simulating Hydro-Nephrosis—Feeding Through the Gall-Bladder for Three Days. F. N. S. Starr.
79 The Relation of the Profession to Sanatoria for Consumptives. P. H. Bryce.
80 *Exploratory Incision in Obscure Brain Lesions—Some Points in the Surgical Treatment of Meningocele. L. W. Cockburn.
81 Some Proofs that Smallpox is Prevented by Vaccination. W. F. Elgin.

Canadian Practitioner and Review (Toronto), September.

82 On the Present Status of Therapy and its Future. Lewellys F. Barker.
83 An Unusual Case of Crossed Paralysis. D. Campbell Myers.

Bulletin of Johns Hopkins Hospital (Baltimore), September.

84 *Morbid Conditions Caused by Bacillus Aerogenes Capsulatus. Wm. H. Welch.
85 *On the Histology of the Islands of Langerhans of the Pancreas. Eugene L. Opie.
86 *The Distribution of Connective Tissue in New Growths. W. C. White.
87 On the Relation of the Electrical Conductivity of Blood-Serum to its Alleged Bactericidal Power. Emma Lootz and Alice W. Tallant.
88 *Contribution to the Study of Malignant Tumors Arising in Congenital Moles. R. H. Whitehead.
89 *Inorganic Ferments. Harry C. Jones.
90 The Sterilizing of Catgut. G. Brown Miller.

Atlanta Journal-Record of Medicine, September.

91 Physical Culture in the Medical World. Mary L. H. Arnold-Snow.
92 Diagnosis and Etiology of Idiopathic Fevers. F. M. Brantly.
93 The Physiological Therapeutics of Masturbation. C. A. F. Lindorme.
94 Report of a Case of Tubercular Arthritis of the Knee, with Remarks. J. W. Henson.
95 A Case of Prostato-Cystitis with Complications. J. B. H. Day.

American Practitioner and News (Louisville, Ky.), August 15.

96 Removal of the Cervical Sympathetic Ganglia for the Relief of Exophthalmic Goiter: With the Report of a Case. M. F. Coomes.
97 *Dilatation of the Stomach from Pressure of the Superior Mesenteric Artery, Vein and Nerve on the Transverse Segment of the Duodenum. Byron Robinson.
98 *Scurvy Infantilis. R. B. Gilbert.
99 Report of a Case of Double Mastoiditis: Operation and Recovery. George F. Keiper.
100 Foreign Substances in the Windpipe, Threatening Tracheotomy. F. J. Yager.

Medical Summary (Philadelphia), September.

101 Malarial Hematuria—Treatment. O. M. Patterson.
102 Hymosa in Rheumatism and Allied Diseases Studied Clinically. C. W. Canan.
103 Heroin—Its Value in Therapeutics. W. R. D. Blackwood.
104 *The Treatment of Simple and Specific Urethritis in the Male.* Maurice H. Ahlborn.

Dominion Medical Monthly (Toronto), August.

105 Notes from Chicago Clinics. A. F. McKenzie.
106 *The Treatment of Chronic Diseases of the Kidneys. E. T. Snyder.
107 Fracture of Base of Skull. J. G. Lamont.

Medical Dial (Minneapolis), September.

108 *An Unusual Symptom of Perforative Appendicitis. David Owen Thomas.
109 *Climate: A Factor in the Treatment of Tuberculosis. Francis Crosson.
110 The Legal Prevention of Tuberculosis. Clark Bell.
111 Bovine Tuberculosis and Cancer. F. F. Casseday.
112 *An Unrecorded Case. Florence C. Baier.

Memphis Medical Monthly, September.

113 Asepsis and Antisepsis in Country and Private Practice. August Schachner.
114 Transposition of the Heart. Frank C. Wilson.
115 Periostitis and Ostitis; Tuberculous Abscess. William L. Rodman.
116 Twentieth Century Smallpox. John A. Blackmon.
117 Infantile Diarrhea. H. S. Wolff.
118 The Trained Nurse. Blanche Hillman.

AMERICAN.

1. **Neurasthenia.**—The distinction between hysteria and neurasthenia is first noted by Eskridge; the latter is not a disease, but simply an exhausted and irritable state of the nerve centers. Its causes are numerous, but the psychic far outweigh the physical in this regard; mental depression, anxiety, etc., are more exhausting than mental work alone. Various diseases, pelvic disorders, indigestion, eye troubles, etc., and even bad teeth may have an agency in causing it. Hodge, Mosso and others have shown that it has a real pathology in cellular changes. Eskridge reviews the symptoms in detail, motor, sensory, ocular, mental, visceral, etc., and remarks as regards its diagnosis that we must differentiate between it and organic disease, hysteria, incipient melancholia and paresis, and lastly between genuine and simulated symptoms in medicolegal cases. This last is not always easy; but a slow or normal pulse-rate is not indicative of neurasthenia, and if it is not increased by exercise or pressure over alleged tender points the presence of traumatic neurasthenia is dubious. The prognosis is generally good as regards life, the chief unfavorable conditions are heredity, early appearance of the disorder, and its long duration. The danger of the drug habit in these cases must also be considered. The most important points in treatment are prevention, removal of exciting causes, etc. In the developed disease the treatment consists of rest, partial or absolute, and in many cases isolation. In the severer cases, with absolute rest, suitable diet, preferably skimmed milk, carefully regulated, is advised, and generally also isolation.

2. **Post-Operative Mental Disorders.**—Posey reports 24 cases of mental disturbances following operations on the eyes, and thinks these would be more frequently observed but for the fact that hypnotics are generally freely and promptly used on the first appearance of mental symptoms. The type is rather uniform, a mild restlessness passing soon into an active hallucinatory delirium, readily controlled by narcotics; in no case was there permanent damage. He thinks the causes are chiefly psychic, preoccupation of the patient's mind with the idea of his state and the psychic effects of the operation itself.

3. **Postcritical Temperature in Pneumonia.**—Fisher reports three cases of postcritical temperature in pneumonia in young children, which he analyzes as follows:

1. That a postcritical rise in temperature took place in all the cases, and that the temperature was somewhat uniform as to time, height, and duration.

2. That while the ratio existing between the respirations and the pulse during consolidation was reduced to an enormous extent, the ratio existing during the postcritical rise in temperature was increased.

3. That these conditions being true, there must have been some cause common to all.

4. That the rise in temperature bore a direct relation to the physical signs marking beginning resolution.

5. That the rapidity with which this secondary rise reached its highest point bore a direct relation to the extent of liquefaction.

6. That the rise in temperature was followed by an improved state of the affected area.

7. That as the condition in the affected area improved the temperature reached normal.

In conclusion he says that he believes this secondary rise to be a frequent one, depending on the absorption of a degenerated albuminoid mass containing fever-producing bodies. It is a condition which can be diagnosed, the diagnosis of which gives a great deal of satisfaction, and allays much uneasiness, not only to the physician, but to anxious parents and friends.

7. **Joint Disease.**—In the conclusion of his paper Phelps holds that the action of carbolic acid, as he employs it, is by uniting with albumin of the tissues, forming an antiseptic albuminoid or albuminate. His method is described as follows: The abscess cavity is laid open. The opening into the capsule is found and enlarged and the joint explored. If there is extensive bone disease, the incision is lengthened and the capsule of the joint freely divided for half or two-thirds of its entire circumference, the head of the bone pulled out from the socket, the curette freely used, and the joint thoroughly irrigated with bichlorid solution, one to one thousand. The joint is now filled with pure carbolic acid. It is [illegible]ed t[illegible] ain o

minute by the watch, after which the joint is thoroughly washed out with pure alcohol, and finally the alcohol is washed away with a 2 per cent. solution of carbolic acid. Instead of packing the wound or sewing it up, or introducing the collapsible rubber drainage-tube, he uses the largest glass tube that the cavity will take, which extends down to the joint and is just flush with the skin. This tube not only admits of perfect drainage, but enables the surgeon to see, day after day, just what is taking place in the joint. If further suppuration or extension of disease takes place, it is usually treated through this large glass tube by curetting and the use of carbolic acid and alcohol. Packing can be introduced through the tube to secure perfect drainage from the joint. These tubes vary in size from half an inch to two inches and a half, and they are of various lengths. A drainage-tube for a small child should be about an inch in diameter. In other words, the glass tube is fitted to the parts, as large as they will take, and one can readily see the immense advantage the surgeon has day after day if he can examine the diseased area down to the very bottom of the joint. The tube is worn until granulations fill in from the bottom of the wound. He removes diseased bone freely, but in his seventy cases thus treated he excised the head twenty times, while with the old methods he would have done this at least fifty times. His results are certainly good; he does not regard the carbolic acid, however, as a specific but as simply an auxiliary to good surgical work.

9. **Malignant Disease of the Larynx.**—Delavan analyzes and criticises the statistics of laryngeal operations for malignant disease, showing not altogether discouraging results. He reiterates, however, his earlier expressed opinion that the indiscriminate performance of capital operations on the larynx should cease, and suggests a careful scientific test by the most experienced and successful operators with the best appliances and assistance, with thorough following up of their cases. Then, he says, "it will soon be learned whether the radical extirpation of laryngeal epithelioma is a justifiable procedure or whether, as seems probable, the practical necessities of these cases must be met by means less hazardous to the life and comfort of the patient and more certain of complete and lasting success. Let us hope that the triumphs of iodid of potassium and the toxins of erysipelas may find their parallel in the successful remedy for epithelioma."

10. **Telephone Paralysis.**—Rice reports two cases of partial vocal paralysis apparently due to excessive use of the telephone, and suggests caution against its faulty use, or in case of its producing symptoms of nervous exhaustion.

12. **Snake Poison.**—This article is of considerable length, and only a few of its important points can be noticed. It describes the different kinds of venomous snakes, the various poisons, their physiological effects according to the different origins. It calls the sequela of the cobra bite an acute bulbar paralysis of the most furious and vehement type, while the poison by the viper snake has an analogy in acute ascending spinal paralysis, the last stage of which exhibits alike bulbar symptoms and inhibition of respiration. There is no question but that snake poison is both a nerve and a blood poison. It acts directly on the germicidal power of the blood, which accounts for the rapidity of decomposition. It has been an often-recommended custom to suck the wound or apply cups. He does not advise this procedure unless free scarification is first performed. Ligatures are useful in preventing absorption. This is the first recommendation in the treatment. The chances of neutralizing the poison are limited and the question is: What can we do to hasten the excretion? The kidneys are probably themselves affected, hence it is doubtful whether we should try to increase their activity. Diaphoretics have also had dubious results. It seems probable, however, that a certain amount of the poison is eliminated through the stomach; to give emetics may be a rational treatment. The author seems to think that the use of saline solution transfused into the veins is a somewhat promising measure, and a trial of artificial respiration is justifiable. Strychnin, which has been claimed to be a specific, has been extensively used, but the results are not convincing. In conclusion the author speaks of the use of immunizing the serum and its promise in the future treatment of these accidents. To sum up, the most commendable treatment, he says would be that one or more tight ligatures should be made above the wound, followed, perhaps, by deep scarifications; then injections of antivenene, if at hand. If the latter can not be had, injections should be made of a solution of hypochlorite of lime, 1 to 60, at several points near the bite and elsewhere. Stimulation, if necessary, by either strychnin or atropin or alcohol; hypodermoclysis of physiological saline solution; lavage of the stomach; artificial respiration for hours; and, not least of all, continuous encouragement of the victim, for a deep mental prostration goes together with the physical depression of the nervous centers.

13. **Erosions of the Stomach.**—Quintard reports a case of gastric erosion and sums up his conclusions, which are similar to those of Drs. Einhorn and Pariser, as follows: "1. That from time to time we see patients in whose stomach washings are repeatedly found small fragments of the gastric mucous membrane; on an average one to four of such pieces are found in a washing, their size varying from 2 to 7 cm. long and about 2 to 3 cm. wide; that the repeated finding of such pieces of mucosa in the wash water shows that we are dealing with a case of erosion. 2. That such erosions occur under varying pathological conditions, and that as a consequence the functional signs vary accordingly. 3. That the exact etiology and pathology of such erosions are at present not definitely known; that in the great majority of cases at least where such tiny fragments of mucous membrane are found in the wash water the patient gives a definite and peculiar clinical history distinct from that of round ulcer or from the exulceratio simplex described by Dieulafoy. 4. That as a consequence these cases should be regarded as a distinct class clinically and treated as such."

14. **Tuberculosis of the Testis.**—The chief point in Moschcowitz's paper is that the radical operation for removal of a tubercular testis includes also the removal of the vas deferens and the seminal vesicle. He shows that the same may be detached surgically by three separate routes: 1, by the inguinal route; 2, by the sacral route, and 3, by the perineal route. A comparison of the three methods he thinks will result favorably to the latter, as it has certain advantages over the others. Operation by the inguinal route seems to be very difficult and the extensive stripping off and not impossible injury to the peritoneum can not be an indifferent matter, and the extreme depth in which the operation has to be carried out bars an inspection and treatment of the possible infected prostate. The sacral route in any of its numerous modifications is so extensive that it must be considered complicated and dangerous.

15. **Liver and Elimination.**—Davis refers first to a former paper in which he pointed out the importance of the liver as an organ of nutrition. In his article he attempts to show that this organ is also the most important eliminative organ of the body.

16. **Talipes Calcaneus Paralyticus.**—Gibney, after reporting several cases, says that almost any appliance which is worn night and day, the management of which is taken completely out of the patient's hands, should bring good results. He has used mostly plaster of Paris and is somewhat prejudiced in its favor, but he can readily see how other dressings may be equally effective.

17. **Occupation and Tuberculosis.**—The etiology of tuberculosis is investigated by Freudenthal. He admits that statistics show that there is an increase of tuberculosis with a diminution of income. The most important thing, however, he thinks is occupation, and he has studied 1576 cases treated at the Montefiore Home in New York during the past ten years, especially noting the occupation of each, and found that tailors are particularly liable to the disease. This may be due to

their bent position, lack of proper exercise and other causes, and he expresses his opinion elsewhere that consumption is primarily a trophoneurotic affection of both a general and local nature, and that the invasion of the tubercular bacilli takes place at a later stage. He quotes Dr. Solis-Cohen as not of the opinion that the tubercle bacillus of itself originates the disease. He thinks this notion is spreading here and abroad, although not perfectly correct. In his opinion he says that occupation has an agency in the etiology of pulmonary tuberculosis in so far as it is sedentary and involves confinement within doors.

18. **Giant Cells.**—The chief aim of Warthin's article is to point out the confusion which exists in the recognition of the giant cells found in the pulmonary vessels, and the fact that at present there are no means of differential diagnosis as to whether these cells are of placental, spleen, or bone-marrow origin, and that the significance of such metastasis needs to be cleared up by further investigation.

19. **Stomach Disturbances and Post-Apoplectic Temperature.**—Winter believes that the continued high temperature of apoplectic cases, at times irregular in its fluctuations, may be dependent entirely upon the absorption of infective material in the alimentary canal and that the best treatment is the use of hydrogen dioxid. He mentions several cases where this treatment was adopted and thinks that they demonstrate positively that the temperature following the apoplectic stroke is due in part to this absorption. It has been his practice to give the drug combined with an equal quantity of chemically pure glycerin.

20. **Radical Cure of Hernia.**—In the statistics of 98 cases of hernia in his own practice Dr. Warren includes 74 of inguinal hernia, 7 of femoral hernia, 12 of umbilical hernia and 5 of ventral hernia, all operated on between 1898 and 1900. He separates them into two groups, those operated upon between 1888 and 1894 and those subsequent. There is quite a notable showing in favor of the latter; the percentage of septic operations is decidedly lessened in the latter period. He finds that silk has given better results than catgut. As regards recurrence, following the same rule as to the time of operation those subsequent to 1894 show that improved technique had an important influence upon the result. The percentage of perfect results is nearly as good as that laid down by Bull and Coley in their last article in the "International Text-Book of Surgery." The age and station in life are noticed as influencing the results. In children there is always a chance of cure by the truss, and children who have parents capable of exercising constant and intelligent care can be treated mechanically, but when the chances of such care are uncertain, or there are any complications, operation is advisable. Warren disagrees with Bull and Coley in their statement that fifty years is the age limit for operation in adults. Certain points in the technique of the operation are noticed, such as the emptying of the sac, removal of omentum, preparation of the skin beforehand, which is of great importance, as it is difficult to render it perfectly sterile, etc.

21. **Actinomycosis.**—Actinomycosis is probably, according to Porter, a less rare disease than commonly supposed. Examination by microscope is absolutely necessary for a positive diagnosis. He reports eight cases. It is practically impossible, he thinks, to make a clinical diagnosis of the disease. Recurrent abscesses about the jaw, not connected with tubercular glands, should arouse suspicion. The presence of the so-called sulphur granules in the discharge is not by any means conclusive and the microscope should be depended on. With reference to treatment, two facts, he says, speak strongly for the self-limitation of the disease in the majority of cases. 1. Though it can not be a rare affection, few cases enter the hospital with advanced actinomycosis of the jaw, and it seems therefore certain that many recover after simple incision of the abscess, and even through a natural rupture of it. 2. It is surprising to find, on microscopic examination of sections, how infrequently the colonies are found in the walls of the abscesses, though the pus contained many graules. The surrounding connective tissue probably proves an effective barrier to the spread of the disease. Many cases are cured by simple opening. The individual case and the severity of the infection must determine the choice between curetting and cauterizing and a more radical excision. Iodid of potash in doses of 20 grains three or four times a day has distinctly influenced some cases for good and should be used in connection with the local treatment.

27. **Pelvic Reflexes of the Heart.**—Robinson holds that the heart is particularly affected by diseases of the generative organs of women. He knows of no organs so manifestly disturbed in the menopause, and he figures out the mechanism with the various sympathetic ganglia and their connection with the automatic cardiac ganglia.

32. **Anatomical Relation of the Neuron to Nervous Diseases.**—Barker gives an interesting historical review of the rise and progress of the neuron theory and in conclusion offers his own views in the following: The formulation of the neuron doctrine was the equivalent of applying the doctrine of cell-units to the nervous system. The actual application to the nervous system at so late a date of a doctrine long known and generally appreciated for the other tissues of the body is explicable by the fact that it has been only recently that it has been possible to replace the mistaken conception of the extent of a nerve-cell formerly held by the true conception. If the term "nerve-cell" called up in mind the idea which we now hold of the biologic unit in the nervous system there would be no necessity for the use of the word "neuron." But until the text-books have been expurgated and the nomenclature employed by teachers and writers becomes more precise, some word other than "nerve-cell" would seem necessary. Any one who has the idea of "contact-relation" inseparably connected in mind with the term "neuron" would do well to give up the use of the word and to use "nerve-unit" or "complete nerve-cell' in its place. But for those who have never considered the theory of contact-relation as a necessary part of the neuron doctrine, but have regarded the neuron as the unit in the nervous system corresponding to the cells in other parts of the body, the term can be definitely retained and even employed with reverence on account of its historical significance.

33. **Pathologic Changes in the Neuron.**—Spiller's article is an elaborate one, which is not easily abstracted in detail. He finds that on the whole there is a tendency for the whole neuron to undergo alteration when it is attacked by disease or injured experimentally, but that one portion may be more resistant than the rest and may recover even though at first affected, although the end in union with the cell-body may finally atrophy. The earlier in life the lesion occurs the less the resistance. From these facts we have some evidence of the individuality of the neuron. The restriction of any degeneration to any particular set of the neurons is discussed at length in the light of his own and others' observation, and he finds that there is no doubt that this does exist, but that tertiary degeneration, understanding by that term degeneration of another series of neurons resulting in secondary degeneration of a series of the neurons nearer the origin of the impulses, do not seem to be very frequent. There is no positive evidence apparently of degeneration of the cells of the anterior horn from lesions of the posterior roots, and he knows of no evidence that disease of a sensory neuron ever results from disease of a motor one. The fact that degeneration may actually pass from one neuron to another does not prove that neurons do not exist. It is certainly not common for systemic disease to spread irregularly to neighboring areas.

34. **The Conception of the Nervous Diseases and the Neuron Doctrine.**—Sachs finds that the neuron theory is of "distinct assistance in the interpretation of toxic disease affecting at one and the same time the peripheral and central nervous systems, while in some instances involving only one or the other, and not both parts; it had shed some light on the perplexing questions of the relations of the

gressive muscular atrophy, and on the early morbid changes in tabes. It may be of some further help in our understanding of combined scleroses. More than this can scarcely be claimed for it; if it shall have accomplished all of this, and shall be able to stand the test of further sane criticism, it will be entitled to the consideration it has already received."

35.—See abstract in The Journal, xxxiv, p. 977.

39. **Insane Hospitals.**—Rogers reviews the development of insane hospitals and gives his ideas as to their construction and furnishings.

40. **Huntington's Chorea.**—After first reviewing the literature and opinions on this disorder with special reference to the pathologic findings, Good reports a case in detail which was observed by him in the Michigan Asylum at Kalamazoo. There was an atrophic brain with adherent thickened dura, thickening and opacity of the arachnoid, and other evidences of chronic inflammatory and irritative troubles. Marked pathologic changes were found in the cerebral cortex, the disintegration of the cells and engorgement of the vessels. During life there was a progressive dementia corresponding with some of these pathologic conditions.

41. **Paresis.**—Berkley reports a case of paresis in which death was caused during an attack of lobar pneumonia by multiple thromboses of the cerebral vessels due to changes induced by toxic products with multiplication of bacteria in the blood morphologically identical with the bacillus coli communis.

43. **Separate Provisions for Tuberculous Patients.**—Harrington's paper gives the statistics of tuberculous disease, especially pulmonary tuberculosis, in the different sections of the country, showing that while in the New England states the deaths from this cause are hardly greater than in the general population, it increases in other sections, and in the Southern states causes one-fifth of all deaths. He has made inquiries as to the separate provisions for cases of tuberculosis in insane hospitals and finds that in several states, notably in the West and middle West, active measures are being taken toward this end.

45.—**New York State Laboratory.**—Wise reviews the records of New York State as regards pathologic work in its asylums, and specially the recent differences of opinion between the director of the State Pathologic Institute and the asylum authorities. He maintains that the institution should be continued, but that its teaching function should be more thoroughly exercised than has been the case in the past.

46. **Suicide.**—The statistics of suicide in the different countries are touched upon by Styles, and he finds a marked increase with advancing civilization. While suicide, as a rule, is less common in catholic than in protestant states, the lowest figures are found in such almost exclusively protestant countries as Sweden and Denmark. He says little benefit comes from the laws making suicide an offense of any kind or from special legislation to prevent the act, while moral coercion is more or less effective.

47. **Studies in Neurasthenia.**—Pearce's article concludes from clinical and laboratory studies that neurasthenic conditions are associated with the circulation of such an irritant as uric acid in the blood. The vicious circle of disturbed metabolism being established in the toxic action on the nerve centers and the nutritional functions, the treatment should be directed to dietetic and nutritional methods, with a careful study of the individual idiosyncrasy in each case.

48. **Degeneracy.**—Everts finds that degeneracy is an inevitable consequence of civilization with its marked deviation from the original, or typical, human conditions. If by remedy we mean that the degenerate can be regenerated, there is none, but we may rest assured that providence is working in its way for the general progress of the race.

50. **Degeneracy in the Army.**—Woodruff points out the conditions of degeneracy that are observed among recruits, some of them slipping through by careless examination and becoming the black sheep of the army and the deserters. He gives a number of illustrations of this type, and in conclusion he mentions the army musicians as showing some marked variations from the average soldier. With the high musical sense there seems to be a liability to inferiority in some other ways, for they possess physical stigmata in far greater proportion than does the average soldier. They have to be managed by entirely different rules of discipline.

57. **Enuresis in Children.**—The physiology and causes of enuresis and irritable bladder in children are noticed by Bierhoff, and he considers that it is a result, as a rule, of a combination of conditions, the exciting cause being an abnormally increased irritability of the mucous membrane, most marked at the sphincter and sometimes in addition at the trigonum visicæ, or sometimes, in the male, of the prostatic urethra, and the cause of the heightened reflex irritability is to be sought either in a hyperemia or an inflammation of the vesical neck, the sphincter, or deep urethra, either singly or in combination. He has observed this condition in adults and believes that in children the cause is the same. In the normal bladder the mucosa has a low grade of sensibility and the tonic contraction of the sphincter is voluntarily inhibited, but in the abnormal hyperemia of the inflamed bladder the nerves are responsive to a far weaker stimulus, and added to this an increased nervous irritability from general systemic conditions, the effect is readily explained. He reviews the various reflex causes, etc., and their relation to treatment, in detail.

58. **Infantile Scurvy.**—Gilbert describes the symptoms and reports cases of this disease, and considers it is caused by the use of any single food, excepting mother's milk, continued for too long a time. The artificially prepared proprietary foods, of which there are so many in the market, are especially to blame. The remedy is simply fresh, wholesome food, with fruit juice.

60. **Etiology of Tuberculosis.**—McClintock reviews the theories as to the cause of tuberculosis and states the problems that are not yet fully solved in regard to it. He shows some of the difficulties in recognizing the cause that produces it, and says that we must remember in testing guinea-pigs, for example, that we are using animals very many times as susceptible to inoculation as man is. Because we have tuberculous milk, and the feeding of it in large quantities to guinea-pigs will produce the disease, it does not follow that this is the index of human danger from the same cause. We have yet no satisfactory explanation of the latency of tuberculosis. Some authorities believe that there must be an undiscovered spore-stage of the germ which may lie dormant for years, some authorities holding that this spore is the cause of all infection. He notices the recent views of Blos and Volland as to juvenile tuberculosis and the importance of predisposition. The number of those who are satisfied with the statement that the tubercle germ is the sole and sufficient cause of tuberculosis, the pure infectionists, grows less, he says, each year. He thinks that we will eventually find that some certain chemical constitution of tissue, a diathesis, if you please, is essential in the production of tuberculosis and that back of the tubercle germ lies this essential cause.

62. **Some Causes of Appendicitis.**—Walker points out that the vermiform appendix is in the first place a rudimentary organ of low vitality. It has a great absorptive power and poor nutritional facilities. The appendix being a small hollow viscus, when once inflamed it is liable to become strictured and encourage further trouble. The possibility of its becoming bent or kinked is also a danger. The great danger, however, he thinks, is the possible extension of a catarrhal inflammation from the cecum to the appendix and its subsequent invasion by more or less virulent germs.

64. **Pichi.**—Aronstam describes the botanical character of Fabiana imbricata, Ruiz and Pav, and its chemistry. He finds it contains minute quantities of: 1. A crystallizable alkaloid of bitter taste and neutral reaction, forming salts with acids, that he calls fabianin or pichin. 2. A neutral principle rich in

carbon, insoluble in water, tasteless and inert. 3. A fluorescent body analogous with esculin and classed among the glucosids. 4. A volatile oil. 5. A bitter resin on which the action of the drug depends. It is best used in the form of a fluid extract in combination with an alkaline aromatic and in doses of 10 to 40 minims every three or four hours. It is a stimulant and alterative to secretions in general, and a sedative to the mucous membranes, especially to the urethral mucosa, and has a high reputation in Chili in the treatment of urinary diseases. He has found it valuable in urethritis. It is said to expel calculi by its stimulating action on the muscular fibers of the urethra. He reports a case in which it was used in urethritis.

69.—See abstract in The Journal of July 7, p. 51.

70. **The Sac in Large Inguinal Hernia.**—The object of this paper is to emphasize one point in the technique of operation for very large inguinal hernia. What the author understands by very large inguinal hernia varies from the size of a child's head to an adult's head or larger, and the special point is management of the sac. In small hernia the sac is almost invariably removed, but in these cases it is so large, its walls so thickened, and its connection with hypertrophied tissue so much more intimate that its removal is therefore attended with danger of laceration and frequently with more or less troublesome oozing of blood or hemorrhage. Harris reports several cases in which instead of attempting to remove the sac from the scrotum he has allowed it to remain, and in two of the three there was no trouble whatever. In one there was a thrombosis, hemorrhagic insufflation of the testicle and sloughing. The first impression would be that in leaving so large a sac cysts or hydrocele would develop, but such has not been the case in his own experience or in the cases reported by Kramer. The advantages of this treatment are: 1. Saving of time during the operation. 2. Avoiding danger of sloughing of tissue. 3. Less danger of sepsis.

71. **Submersion in the Treatment of Wounds.**—The use of the hot bath in poisoned wounds, to which attention has recently been called by Fraser, is here noticed by Hodges, who claims that he has been the only American advocate of the treatment since the publication of Dr. Frank Hamilton, over twenty-five years ago. His extensive experience with the procedure, he claims, warrants the following practical conclusions: 1. Continuous submersion even for long periods—two or three months if necessary—is altogether harmless. 2. That it may be easily secured anywhere by anybody possessing an ordinary degree of ingenuity. 3. It will almost instantly limit infectious gangrene and control the resulting septicemia and spanemia. 4. It will quickly relieve the pain and discomfort of phlegmonous inflammation or cellulitis. 5. It will speedily and readily reduce temperature and pulse and overcome the consequent depression of the patient's vital forces. 6. The temperature of the bath is immaterial, except when below that of the room it more promptly reduces fever and many bacteria will not develop at this temperature, while such as do so, develop less vigorously than at a slightly higher temperature.

72. **The Diazo Test.**—Salisbury describes the diazo reaction and its clinical application and finds that it is of value in a number of diseases, especially typhoid and tuberculosis; in the latter it may serve a valuable purpose in estimating the stage of the disorder. He thinks it should be more frequently used by the practitioner.

77. **Club-Foot.**—The general belief that club-foot is incurable in the adult is contested by McKenzie, who has had experience with a number of cases averaging 26 years of age, of which he gives the particulars and illustrates a few. In the cases reported there was no operative interference other than subcutaneous cutting. The average time from the first operation until the patient was able to walk and be about was three months. From his experience he believes that neither operation on the bone nor open incision is called for to relieve the condition excepting in a very small proportion of cases, less than 5 per cent., and the result is better where there has been no cutting other than the subcutaneous one. The treatment is no longer than on patients where the open incision is made. Whatever method is adopted any deformity of the foot should be fully corrected before the relation of the foot to the leg is interfered with. In all the twenty-eight feet referred to, the result is very encouraging, and the age of some of these patients, 30 and 43 years, with satisfactory results, renders it comparatively certain that age by itself is not a serious barrier to treatment.

80. **Exploratory Incision in Obscure Brain Lesions.**—Cockburn reports several cases of operation on the brain, one of which revealed nothing especial though improvement followed. He thinks that exploratory incision might be more frequently resorted to with advantage when distinctly localizing symptoms are not present. If after all the modern remedies have been tried, all constitutional conditions excluded, and the patient fully understands the experimental nature of the procedure, he thinks the exploratory incision is justifiable.

84.—This article has appeared elsewhere. See The Journal of August 11, ¶ 16, p. 385.

85. **The Islands of Langerhans.**—The following are the conclusions in Opie's article: 1. The islands of Langerhans are composed of cells having the same origin as those of the glandular acini but forming structures which are independent of the secreting apparatus and in intimate relation with the vascular system. 2. In the splenic end of the cat's pancreas they have a definite position within the lobule, each of which contains one of these structures. 3. In the human pancreas they are more numerous in the splenic extremity or tail than elsewhere. Similar variation in their number is observed in cats and dogs. 4. Prolonged stimulation of the gland does not, as claimed by Lewaschew, transform groups of acini into islands of Langerhans.

86. **Connective Tissue in New Growths.**—White has studied the character and the distribution of various kinds of connective tissue, by different methods. His article is accompanied with handsome illustrations of the findings of some of these. His conclusions are as follows: 1. Elastic fibers are frequently present in new growths: in the stroma; among the cells; around the blood-vessels, and in breast tumors around the lactiferous ducts which have been included and invaded by the growth. 2. When present they are usually in connection with pre-existing elastic-tissue elements in the original tissue in which the growth has arisen. 3. Sarcomata present a large increase in connective tissue and possess an exceedingly fine intercellular network. 6. The digestion methods present a possible means of diagnosis between carcinomata and sarcomata in doubtful cases. 7. Uterine myomata have a very large amount of connective tissue both of a white fibrous and reticular nature, possessing a connective-tissue capsule for each muscle-cell; and would be more correctly termed fibromyomata.

88. **Congenital Moles.**—The literature on the nature of nevus cells and the transformation of moles to malignant growths has been studied by Whitehead, who reports two cases. He thinks it will serve to call attention to the fact that tumors may spring from congenital moles which present the same processes as those going on in the melanotic tumors, with the exception that they totally lack true melanotic pigment.

89. **Inorganic Ferments.**—Jones notices a paper bearing this title by Bredig and Mueller von Berneck, which points out certain analogies between the action of ferments and the contact-action of metals. In order to determine whether there was any close relation between the action of organic ferment and finely divided metals they studied the decomposition of hydrogen sulphid, etc., which reduce quite considerably the action also by finely divided metal. Jones reviews the chemical equations showing that the decomposition of hydrogen dioxid by colloidal platinum is a *monomolecular reaction, the platinum itself not entering into it. He finds a still more striking analogy* between the action of platinum and [illegible] in the action of certain poisons such [illegible]

drogen sulphid, etc., which reduce quite considerably the action of platinum on hydrogen dioxid. He thinks there has been enough done to show that this is a very promising field for investigation. and while it is impossible to say to just what it may lead, it is a step in a direction which is full of promise as possibly throwing light not only on chemical and physical, but also on biological problems.

97. **Dilatation of the Stomach.**—Robinson calls attention to a cause of stomach dilatation in visceral ptosis by pressure on the duodenum by the superior mesenteric artery, vein and nerve. He has studied this subject for several years and illustrates his paper with diagrams or sketches showing the mechanism. He has not found any records in the literature of this cause having been noticed and therefore considers it as an original observation by himself.

98.—See also abstract No. 58, above.

106. **Chronic Kidney Disease.**—Two kinds of the common, or at least commonly recommended, treatment of contracted kidney are noticed and also the recommendation of the milk diet and alkaline waters, which have been extended into regular drink cures at favorite health resorts. One point mentioned is the regulation of the allowance of albumin, especially the condemnation of red meats for this class of patients. Snyder thinks there is no basis for this, but that it has simply been handed down from one treatise to another without any reasonable evidence or argument in its support. The most important point, however, is the question as to the restriction of liquids. In nearly all the newer works there is either nothing said as to the amount of liquids to be allowed or they recommend a liberal allowance of them for the better flushing of the kidneys. After six years' careful study of the subject Snyder believes that very often patients with contracted kidneys can be helped to a very great extent by the restriction of their consumption of fluids. This is most shown in advanced stages of contracted kidney in which attacks of cardiac asthma have already appeared and there is, besides hypertrophy of the left ventricle, considerable dilatation. He believes that the practice of flooding the system with fluids in this condition is of immediate injury to the patient and mentions cases where he has seen this result. His conclusion, which he thinks entirely justified by his clinical and experimental studies, is that in the case of patients with contracted kidneys neither in the stage of relative euphoria, nor in the stage of beginning cardiac weakness, nor in chronic uremic phenomena, is elimination of the most important products of tissue metamorphosis ever impaired through lessening of the liquids to 1¼ quarts per day. In no single observation was this the case, though in a few instances there was the contrary result, viz., the increased elimination of nitrogen and urinary salts with the lessening of fluids. As regards albumin, the absolute daily amount of the urine fell off with the smaller injection of fluids and in practice the proportion of albumin is exclusively and erroneously considered. This fact is important, as otherwise one might be led through the lessening of the liquid to erroneously think that the albumin had been greatly increased.

108. **Unusual Symptom of Appendicitis.**—The special symptom here noticed by Thomas was observed by him in a boy of 16, in connection with perforation, which was relieved by operation. The symptom consisted in intense pain about an inch back of the meatus urinarius on the under surface of the penis. The mechanism suggested by the writer is that it is a reflex from the appendix transferred through the hypogastric plexus.

109. **Climate in Tuberculosis.**—Crosson's article is a statement of the advantages of New Mexico as a sanatorium for the tuberculous, and he thinks that region will be the resort of the future for the victims of this disease.

112. **An Unrecorded Case.**—Baier reports quite fully, though lacking some details which could probably have been furnished had she been the physician in charge and taking full notes at the time, the case of a clergyman whose symptoms were attributed at first to rheumatism and later to intermittent spinal inflammation, but which finally turned out to be one of intrathoracic tumor and osteomalacia. There was pressure from calcareous growths on the inside of the spinal canal, which probably was responsible for many of the peculiar symptoms observed. The patient finally succumbed from an attack of cholera morbus, and at the post-mortem, besides the lesions found, the viscera and organs were generally reported to be in a healthy condition.

FOREIGN.

The Lancet, September 8.

The Expectancy of Life in Cases of Cancer of the Breast. ARTHUR E. BARKER.—The author analyzes the statistics of operation for excision of malignant diseases of the breast and gives the following surgical axioms as those that have come to be pretty generally held and acted on in the treatment of these conditions: "1. An excision of the breast to be effectual must be early. 2. The overlying skin, subcutaneous fat, pectoral fascia, axillary fat and glands with the entire breast must be widely and deliberately removed. 3. During this dissection all division of carcinomatous tissue should be avoided, and, if inevitable, freshly sterilized instruments, etc., must be used. 4. As little direct handling of the parts to be moved as possible should take place. 5. Arrest of all immediate bleeding should be accomplished, preferably by forci-pressure, and, if not, by ligature; and subsequent oozing by elastic pressure and bandaging. Rest for the wound and the patient should be secured for at least two weeks. 6. All this extensive removal can be accomplished with but little risk to the patient in fairly early cases. 7. When the disease has infected the muscles palliation alone can be expected from surgical interference, and it is questionable whether very extensive operations involving risk from shock ought to be performed with only this end in view. Indeed, the apparently paradoxical rule—which, for my own part, I have followed of late—appears to be justified, viz., that the more localized the primary focus of carcinoma in the breast is, the more wide-reaching should be the excision on the above lines. That is to say, there is in such cases a fair prospect of complete eradication of the disease by a wide-reaching operation, and therefore it is justifiable to run some risk of shock. The converse rule appears also to have much to recommend it, viz., that the more wide-reaching the disease the more clearly should the operator keep mere palliation in view, and by limiting his operation avoid the risk of extreme shock." It seems from the results thus far recorded that the expectancy of life is improving as time goes on. Over 33 per cent. of modern cases live more than three years after the operation, but we can not call these cured, since many of them die from recurrence. Local recurrence is not so common; it has generally been in internal regions. This is another good feature, since local recurrence is most depressing, while internal generalization is often not so much so.

On the Pathology and Therapy of Angina Pectoris. THEODOR SCHOTT.—Schott first reviews the theories of angina pectoris, and says that there is generally a sclerotic change in the aorta in its ascending position at a point where it is not without influence on the spot from which the coronary vessels take their origin. This causes an inadequate nourishment of the muscles of the heart with consequent weakening—the Parry-Stokes theory—and the heart has to act against a contracted arterial system. The suddenness of the paroxysm may be directly attributable to the retardation of the circulation within the coronary vessels. A moderate distension of the cardiac muscle may easily lead to a temporary occlusion of one or more coronary vessels at the seat of an already existing constriction. In other cases a thrombus or an embolus may be the cause. He believes that clinical observations support these views and discusses the therapy of the disease. The actual paroxysms are most efficaciously relieved by the nitrites, but he suggests caution in their use. He has found the application of heat of great value in these cases, but in some cases only narcotics are reliable. Iodid—not of potassium, but of sodium

—is also advised by him. He mentions also the value of hydrotherapy and exercise, although not suited to all cases. Finally he says, "Looking, in conclusion, once more at the actual state of our therapeutic experience, we are brought to the conclusion that the results which we obtain by the application of the above-mentioned more prominent medicaments are to be explained by the lowering of the pressure of the blood and the moderation of the heart's action consequent on it. Differing therefrom are the causes which insure success in the balneological and gymnastic treatment, because it is obtained by the exercise of a tonic influence. By strengthening the heart's muscle, as well as by acting on the cardiac nerves, the distressing symptoms of the angina pectoris are either removed or reduced; in other words, *ex juvantibus*, it is shown that the Parry-Stokes theory is based on a real and solid foundation."

British Medical Journal, September 8.

A Discussion on the Indications for the Intranasal Treatment in Diseases of the Ear.—McBride calls attention to a form of deafness occurring in adults which is gradually increasing. In advanced cases the patient hears better in a noisy place. The tuning fork is well perceived by bone conduction, and tinnitus is common. The drum membrane may be somewhat drawn in or normal, and there are sometimes patches of thickening or dark atrophic areas. There also may be normal membranes or a slight red shade, and occasionally the only abnormality detectable is a slight irregularity in the outline of the malleus. In all these cases there may be a degree of Eustachian obstruction, and sometimes the tube is pervious. Many of the patients say they hear worse when they catch cold. He has been in the habit of examining the anterior and posterior nares of these patients, and has usually found gross nasal lesions. Two types are distinguishable: 1, those in which the anterior and posterior nares are either normal or somewhat anemic, with a very sharp differentiation of parts, but without any swelling or congestion; 2, those in which some congestion of the whole tract, including the Eustachian orifices, exists; possibly, some other nasal abnormalities. He thinks that we can separate the two types, viz., so-called sclerotic, and catarrhal. In the former type operating on the nose may do no harm and will hardly benefit. In the catarrhal form it is better to operate on gross nasal lesions or adenoids if they exist. In certain persons he believes that there is a tendency to catarrh of the upper respiratory tract, involving the middle ear, while in others the ear escapes. In certain doubtful cases he believes that the presence or absence of redness about the Eustachian orifices may be a useful indication as to whether or not an operation on the anterior nares is desirable. A slight obstruction may affect the ear by acting as a focus of irritation or causing diminished air-pressure in the postnasal space.

Baber discusses the diseases of the nasal cavities as bearing on ear trouble and their treatment, and remarks that it is astonishing to what an extent the nasal cavities may be obstructed and hearing be very little affected. The removal of nasal growths, even if small, is indicated in chronic non-suppurative middle-ear diseases.

Dundas Grant summed up his remarks by saying that there is a causal association between nasal obstruction and some forms of disease of the middle ear, especially the moist catarrh; but not the typical sclerotic catarrh. In some cases of nerve deafness good results may follow the improvement in nerve tone produced by removal of nasal obstruction. In operations in the nose all precautions should be taken which diminish the possibility of the occurrence of suppurative inflammation of the middle ear. In doubtful cases nasal operations should be avoided, unless there are other indications apart from the affection of the middle ear.

Others who took part in the discussion were Drs. Scanes Spicer; Herbert Tilley, who stated that in his experience the intranasal operations for removal of obstruction in cases of so-called dry catarrh were almost invariably failures; Drs. Walter Jobson Horne, Patrick Watson Williams, Richard Lake, etc.

A Discussion on the Pathology and Treatment of Toxic Paralysis of the Larynx.—Dr. Watson Williams stated that while the present state of knowledge hardly warrants definite generalization, it seems probable that the majority of cases of toxic laryngeal paralyses have their foundations in peripheral neuritis, a view which has been recently expressed by Semon. This would afford an explanation of the varying localization of the paralysis in different territories supplied by the recurrent laryngeal nerve. Thus, excluding the purely myopathic paralyses, toxic paralyses are due to inflammatory generation of the neuron, that is, in its widest sense, neuritis, and may be conveniently divided into two distinct pathogenic groups: 1. Infective neuritis, commonly occurring in the course of diphtheria and less frequently observed in typhoid fever, typhus fever, scarlatina, morbilli, influenza, rheumatism, tuberculosis, syphilis, cholera and malaria. 2. Toxic neuritis, most frequently due to lead-poisoning, but also reported to have occurred in poisoning by arsenic, copper, antimony, phosphorus, alcohol, atropin and morphin. He noted the different cases of laryngeal paralysis as observed, and remarked that while laryngeal paralysis of toxic origin has been reported as resulting from much the same poisons and infectious diseases known to cause paralysis in other regions, we must accept with caution many of the cases recorded, such as where the condition has not been verified by actual laryngoscopic examinations, or where the history does not definitely point to this one sole cause. The treatment of these laryngeal paralyses may be summed up as follows: 1. The resort to appropriate general treatment of the infective disease when that is the cause of the paralysis; and measures directed to the removal of the poison in the circulation and tissues in the case of organic or metallic poisons. 2. Intralaryngeal applications of the faradic or galvanic current, combined with the internal exhibition of strychnin in considerable doses, either by the mouth, or directly into the affected muscles, when feasible. 3. The relief of dyspnea and threatened asphyxia in cases of bilateral abductor paralysis by intubation or tracheotomy—measures which have frequently been necessary in diphtherial and typhoid laryngeal paralysis.

Bulletin de l' Academie de Medicine (Paris), August 28.

Technique of Tracheotomy. Moure.—With a high incision for tracheotomy there is liable to be difficulty in removing the tube later, as subglottic inflammation and mechanical immobilization of the parts may interfere with the resumption of normal breathing. Moure states that the trouble is due to the high incision, which should never be made on the cricoid cartilage, but always lower down, preferably on the second ring of the trachea. The tube should be removed at the earliest possible moment.

Neuropathic Hemorrhages of the Air-Passages. Lancereaux.—A large number of so-called spontaneous epistaxes have a purely dynamic origin in some vasomotor disturbance. Hemorrhages in the pharynx and bronchi may also occur in adolescents or adults, simulating the hemoptysis of tuberculosis, while in fact the lungs are intact. The subjects are usually persons with a predisposition to gout or rheumatism, and a cerebral hemorrhage may occur later. Lancereaux describes several instances in which a hemorrhoidal or menstrual discharge was substituted by a hemoptysis. The treatment should aim to diminish the tendency to hemorrhage and modify the nervous excitability, which is the true cause, by hydrotherapy and muscular exercise. Absolute repose and opium, ergotin or quinin may be indicated. One of the best means of arresting the attacks is a nauseant emetic, which constricts the vessels of the respiratory passages and rarely fails to produce the desired effect.

Nord Medical (Lille), September 1.

Laryngeal Tuberculosis. Bommier.—Pulmonary tuberculosis is accompanied by laryngeal symptoms in about one-third of all cases. Sulphur baths and the seashore [illegible] a tendency to aggravate the latter. Spraying is [illegible] l and is frequently distressing. The intense rea[illegible] ows surgical intervention or cauterization is [illegible] d by th benefit. Total, absolute repose of the throat is imperative. The patient should change his profession if need be, and communicate exclusively in writing. General measures should be supplemented by the external application of boiling water or iodin and inhalation of the steam from a boiling mixture of 30 grams cinnamon, belladonna and opium in 100 of eucalyptus. In the ulcerative stage, lactic acid is perhaps the best for topical applications, but as they must be energetic and repeated four to eight times a day, it is preferable to have the patient apply di-iodoform himself. This is done by spreading the powder on a paper and auto-insufflating it through a glass tube. The end inserted in the throat is bent, 1 cm. from the end, at an angle of 100 degrees, the other end bent at 145 degrees, 4 cm. from the tip.

Revue Medical (Montreal), August 21.

Reduction of Inverted Uterus. M. T. BRENNAN.—A case is described in detail, showing the advantages of this method in certain conditions. After a median laparotomy, the rigid, constricted cervix was slit on one side, and the internal wall of the uterus grasped with forceps two inches below the incision. Gentle traction was then applied until the forceps had pulled this portion of the wall through the constricting ring. An assistant then held the forceps while a second pair was applied an inch below the first, and this portion was gently pulled out in the same way and given to an assistant to hold while a third forceps was applied. By this means the entire uterus was pulled through the ring and restored to place. If possible, slitting the ring should be avoided, to reduce the danger of infection. The incision should be sutured at once and a stitch taken over each of the small wounds caused by the forceps. In the instance described, the results were all that could be desired. The patient was a primipara, 30 years of age, and the inversion had occurred subsequent to normal delivery.

Semaine Medicale (Paris), September 5.

Rapid Induced Abortion. DOLÉRIS.—No statistics of induced abortion can compare with those of skillful instrumental evacuation of the uterus, preceded by dilation of the cervix, if there is time, and if not, by lateral incision. Doléris asserts that curettement, well done, with a broad, fenestrated, blunt and rounded curette, supplemented by swabbing, is not dangerous; the complete evacuation of the uterus is accomplished in a few minutes; there is no fear of hemorrhage as in more protracted operations; the asepsis can be complete, which can never be the case with digital evacuation. There is little or no pain and no anesthesia is required. Chloroform may be dangerous in the grave conditions which demand prompt, artificial delivery. He cites several instances showing the immediate benefit derived from this rapid abortion, induced and entirely completed in a few minutes by the operator himself, with the speedy recovery of the patient. He sutures the incision in the cervix at once as soon as the curettement and swabbing are completed. When a few hours' delay is possible, he commences by inserting one or two large laminaria tents, preparatory to dilating with Hegar's bougies.

Centralbatt f. Chirurgie (Leipsic), September 8.

Operations Without Contact of the Fingers. KOENIG.—The problem of how to render the hands aseptic is solved by Koenig in one word, "Don't." He has become convinced that all methods of sterilization are unreliable and that the only means to insure absolute asepsis is to avoid direct contact of the tissues with the fingers. With the exception of abdominal surgery, he finds that instruments can take the place of the fingers in nearly all operations. The handles must be made longer than at present, and the number of retractors, etc., multiplied. With practice it becomes easy to work without direct digital contact, and to train the assistants in the same technique. If it is necessary to compress a vessel, for example, the assistant should first wrap his finger in sterile gauze.

Deutsche Medicinische Wochenschrift (Leipsic), September 8.

Diagnosis of Esophageal Stenosis. G. HOLZKNECHT.—One or two grams of subnitrate of bismuth are stirred in 100 grams of water and sipped by the patient. He is then placed in front of the fluorescent screen, the rays passing from the right side of the thorax in front obliquely through to the left side, which allows the esophagus to be examined without overlapping shadows. The bismuth is deposited over the walls of the esophagus when arrested by a stenosis, and outlines the shape of the organ and of the normal portion below the stenosis. The bismuth may be swallowed in a tablet and its course traced, as it is arrested by the stenosis, and then suddenly passes rapidly on. If a few scraps of dry bread are eaten first, the tablet test is still more conclusive. By these means the existence of stenosis can be determined, with its localization, degree and length, without annoying the patient by the application of sounds.

Hematologic Investigations. E. BECKER.—The blood was examined in seven different diseases, including syphilis and lead-poisoning, and the findings are here given in detail, with Becker's conclusions. The information thus derived served to differentiate pneumonia from typhoid fever in several instances by the intense neutrophile leucocytosis. Another case of supposed typhoid fever, in a young man who had been shot in the left thorax a year before, was differentiated by the intense leucocytosis noted, which suggested an abscess in the old wound. Ten days later a tumor became evident below the spleen.

Muenchener Medicinische Wochenschrift, September 1.

Cocainization of the Spinal Cord. A. BIER.—As much as 4 cg. of cocain have been injected into the subarachnoid space by some surgeons, and Bier—the original proposer of the method in Europe—protests with horror against such dosage. He has seen accidents, headaches and vertigo follow the use of less than 5 mg., and warns against ever using more than 15 mg. as the maximum. He also protests against assuming that this method of spinal analgesia is ripe yet for general adoption. He has been engaged during the last year in trying to find some substance less toxic than cocain for injections, and has succeeded for animals, but not yet on man. He hints that he has found a means of rendering cocain injected into the subarachnoid space no more toxic than when used elsewhere, which is in itself a great gain, and puts an end to the by-effects of spinal analgesia. He states that he has also succeeded in extending the action of cocainization until operations on the entire trunk and arms can now be performed with it. He trusts that he has succeeded in evolving a truly practicable method, but does not consider it sufficiently tested as yet for promulgation, which will follow later. [Nicoletti, of Naples, reported at the International Medical Congress that no anatomic alterations of any kind could be discovered in the nervous elements of animals killed after experimental anesthesia with cocainization of the spinal cord. The phenomena noted indicate that the cocain has a first vasoconstrictor and then a vasodilator action, and he attributes its analgesic effect to this property. He found that other vasomotor substances have the same effect as cocain in these conditions, and he was equally successful in obtaining analgesia with quinin, antipyrin and ergotin. Pitesci reported that he had used this method on 125 patients and noted symptoms of slight intoxication in 83 and a serious syncopal condition in a few instances, which persisted for several days and required ether and caffein.—ED.]

Neutral Red Test of Vitality of the Phagocytes. J. PLATO.—Ehrlich's neutral red stain colors albuminous matters taken up in a living cell by phagocytosis, while the cell itself is not stained. The red tint is proportionate in its intensity and duration to the vitality and functional capacity of the cell, of which it proves, therefore, an excellent test. As the phagocyte gradually dies, the reducing property of the cell becomes increased and the red stain of the enclosed particles disappears. The disappearance of the stain can thus be accepted as an indication of the waning vitality of the cell. Living gonococci taken up by guinea-pig leucocytes swelled up and were destroyed at once, confirming the natural immunity of animals to the gonococcus infection, while the cocci remained uninjured in human leucocytes. The various microorganisms stain with different and characteristic tints.

Comparative Anatomy of Adrenals. O. Aichel.—Modern research tends to establish that the suprarenals were formed originally from the primitive kidney, and that the adrenals found in man in the vicinity of the testes, and in the broad ligament in the female, are normal formations developed from the kidney, and able to substitute the suprarenals in case of need. Nothing has been learned, or is likely to be learned from comparative anatomy, in respect to their functions.

Pregnancy and Ovarian Tumor. R. Mond.—Ovarian tumors usually increase in size during pregnancy, and have been known to grow during the puerperium. Judging from published statistics, the best *moment for intervention* as far as the mother is concerned, is from the second to fourth month of gestation, but for the continuation of the pregnancy, between the third and fourth month, ovariotomy is the only rational treatment. Mond had occasion to treat a case seen for the first time when the tumor had attained a weight of fifty-seven pounds. With the tumor, fetus and fluids, the small, slender primipara had been carrying a weight of approximately sixty-nine pounds. She died four days after an apparently successful laparotomy.

Optic Neuritis in Chlorosis Simulating Cerebral Tumor. A. Engelhardt.—A young woman, with pronounced symptoms of cerebral tumor, was observed at intervals during a year, a large part of which was spent in the hospital. At the autopsy the discovery was made that, except for unusual anemia and dryness, the brain was normal. The optic nerves were very much degenerated, and on recalling all the symptoms, the conclusion was evident that the case had been one of chlorosis and secondary optic neuritis. The chlorosis had been vaguely suspected during life, but had been so overshadowed by the assumed brain tumor that treatment had been considered superfluous. The patient probably died of direct inanition, as she had refused all food during the last few weeks and, owing to the completely erroneous diagnosis, no attempt had been made to feed her artificially.

Wiener Klinische Rundschau, September 2.

Influence of Adenoids on Morbidity. A. Goldschmidt.—The writer has been making a study of the various affections that have been cured as the result of removal of adenoid vegetations. Besides countless cases of deafness, throat and ear affections, he has found a number of instances of the cure of hay-fever, idiocy, intense stuttering, recurring headaches, aprosexia or inability to concentrate the attention, and has himself observed a severe case of chorea rapidly subside after the vegetations had been ablated. Dobberke also cured a case of epilepsy in a patient 19 years old, who had had no recurrence at the date of his communication. Enuresis is frequently noticed in connection with the vegetations, has been cured by their removal in about half the cases on record, and improved in most of the rest. The difficulty in breathing and coughing enhances materially the tendency to hernia. Lauffs has reported the retrogression of a prolapsed anus consecutive to ablation of the vegetations in the throat. The disturbance from them has in some cases simulated a meningitis or psychic deafness, and the removal has in others been followed by a return to normal of retarded development. Hemophilia, anomalies in the arteries, and acute phlegmasia of the upper air-passages contraindicate operation.

Grafts of Skin from a Chicken. D. DeFrancesco.—An explosion had produced a deep defect in the leg of a young man, which Francesco lined with small scraps of skin taken from the side of the breast under the wing of a spring chicken. The grafts included the derma and epidermis, and nearly all healed in place. The defect was completely lined with this skin in three sittings. It retained its specific vitality for a while, evidenced by the production of one small atrophied feather, but soon healed into apparently normal human skin.

Suture of the Liver. G. S. Segale.—The method described aims to supply a mechanical support for the threads on each side of the wound in the liver tissue. Six to a dozen long, ebonite or ivory beads are threaded on catgut. Each bead is slightly pointed at one end, which fits into the hole in the next bead. They thus form a comparatively solid bar when fitted close together. One of these bars is applied on each side of the wound, and a long stitch taken through the parenchyma embraces the bar on each side. The ends of the thread forming the loop-stitch are tied over one of the bars. As many of these stitches are inserted as may be required. The bars of beads hold them firm until the catgut is absorbed, when the beads separate and soon become encapsulated. Extensive tests on large animals have established the harmlessness of the method, the complete surgical success, the perfect restoration of function and the rapid encapsulation of the relics of the suture-material.

Brazil Medico (Rio Janeiro), August 15.

Neurasthenia and Tuberculosis. Guimaraes.—Tuberculosis as an etiologic factor in neurasthenia has not been awarded the attention it deserves. Guimaraes describes some personal cases that confirm this view, and states that there is a heredo-tubercular neurasthenia, similar to that already established for syphilis.

Klinitchesky Journal (Moscow), June and July.

Mechanical Treatment of Cardiac Dropsy. S. I. Schwartz.—The toxic substances contained in the ascitic fluid are taken up into the organism when absorption follows the use of medicinal measures for the cure of ascites or cardiac origin. The sudden removal of the entire amount may also be the cause of sudden death in these cases. For these and other reasons Schwartz urgently advocates the general adoption of Fürbringer's simple and effective drainage with a fenestrated rubber tube, which gradually removes the fluid without taxing the heart or organs in any way. He adds that immobilization is indicated, supplemented by other measures, to reduce the task of the heart as much as possible. If it is impossible for the patient to recline, as much of the body as possible should be supported.

July.

Multiple Cutaneous Sarcomatosis. V. V. Ivanoff.—A patient was received at Pavloff's clinic with evidences of severe infection complicating or complicated by multiple cutaneous sarcomatosis, first noticed two months previously. Death ensued in fifteen days. The acute, tempestuous course of the affection in the second period may have been due to the rapid generalization of the sarcomatous tumors, or to some unknown influence exerted by the sarcomatous process. They all proved to be typical round-celled sarcomata, with extensive mitosis. Ivanoff is convinced that the skin was secondarily affected, although the cutaneous manifestations then assumed the predominance. Possibly the skin—as the point of least resistance—vicariously substituted some other organ, the kidneys, for instance. The patient had suffered from nephritis during her last pregnancy. The tumors invariably commenced in the reticular layer of the corium. No micro-organisms could be cultivated from the blood during life, nor from infarcts in the kidneys, spleen or lungs after death.

Treatment of Aneurysms With Gelatin. L. E. Golubinine.—There have been fifty-six cases of aneurysm treated by Lancereaux's method of subcutaneous injections of a gelatinized solution, according to the published reports. The most favorable results were attained by Geraldini, whose five cases were all improved, and by Stoicesco, who had only one failure in six cases. In this article, all the cases on record are tabulated, including Futcher's nine, in only one of which there was improvement. The author himself has been even less fortunate, as he could not discern any improvement in his eight cases. Nevertheless he is strongly convinced that the method deserves more general application, as even the twenty cases on record in which improvement has been noted constitute a proportion of 35 per cent. out of the total of fifty-six, and this is certainly encouraging. There was subjective improvement in a number even when they were not objectively benefited; the distress and pain ceased in a number of instances. He urges further study of the method and of the action of gelatin on the circulation, both in health and disease.

Revista Medica (Mexico), September 1.

Paroxysmal Tachycardia Due to Tenia. E. F. MONTANO.—The patient in the case described was affected periodically with intense dyspnea, distress, and pulse 112. Aortic insufficiency had been diagnosed, but digitalis only aggravated the symptoms, which were finally traced to reflex action from the presence of a tenia.

Nordiskt Medicinskt Arkiv (Stockholm), August 9.

Apparatus for Thorough Sterilization of Milk. I. JUNDELL.—That tubercle bacilli are not killed by the usual methods of sterilizing milk in creameries has been demonstrated by the discovery of living bacilli in market butter made according to the most approved modern methods. Jundell ascribes this failure in thorough sterilization to the fact that the bacilli are not exposed long enough to the high temperature required to destroy them all. He has invented a contrivance to supplement the ordinary apparatus, which, by retarding the circulation of the milk through it, enables the action of the heat to be prolonged and accomplishes the desired end without injury to the milk. It consists of a cylinder fitted with a number of alternating horizontal discs nearly filling the lumen. The milk thus follows a zigzag course through it. Tests with animals inoculated with milk infected with enormous quantities of bacilli and then sterilized in this manner, showed that not one of the bacilli had remained alive. Jundell uses it with the "G. Salenius radiator," which enables the butter to be made at once from the cream without further delay or manipulation.

Localization of the Motor Oculi Nucleus. G. AHLSTROM.—Examination of the brain of a man who had had his left eye enucleated several years before his death—the right eye being normal—showed that all the corresponding nuclei were intact except the left one of the median pair of small-celled nuclei which, with all its medullary fibers, was completely atrophied.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Sept. 5 to 12, 1900, inclusive:

Edward T. Comegys, major and surgeon, U. S. A., previous orders directing him to act as medical supply officer at Nagasaki, Japan, amended so as to direct him to establish a medical supply depot at Taku, China.

Charles H. Fischer, acting asst.-surgeon, leave of absence extended.

Deane C. Howard, captain and asst.-surgeon, U. S. A., member of a board convened at Fort Hancock, N. J., to devise plans for the extension of the water-supply and for the disposal of liquid excreta at that post.

George Newlove, acting asst.-surgeon, from Fort Leavenworth, Kan., to Newcastle, Del., for annulment of contract.

John L. Phillips, captain and asst-surgeon, U. S. A., from Fort Columbus, N. Y., to accompany recruits on the transport *Buford* to Manila, P. I., and for subsequent duty in the Division of the Philippines.

Jefferson D. Poindexter, captain and asst.-surgeon, U. S. A., to accompany the command that may be detached from Fort Reno, O. T., to make a test of the emergency ration.

Merton A. Probert, acting asst.-surgeon, from temporary duty at Columbus Barracks, Ohio, to San Francisco, Cal., to accompany troops to the Philippine Islands.

Navy Changes.

Changes in the Medical Corps of the U. S. Navy for the week ending Sept. 15, 1900:

Asst.-Surgeon C. A. Crawford, detached from the *Eagle* and ordered to the *Dixie*.

Surgeon M. F. Gates, detached from the naval hospital, Norfolk, Va., Sept. 12, and ordered to the *Atlanta*, Sept. 15.

P. A. Surgeon A. M. D. McCormick, ordered to the naval hospital Norfolk, Va., for duty, when detached from the *Montgomery*.

P. A. Surgeon L. Morris, detached from the *Baltimore*, when put out of commission, and ordered home and to wait orders.

Pharmacist J. Pearson, detached from the *Wheeling*, and ordered home and to wait orders.

Asst.-Surgeon W. E. G. High, detached from the naval hospital, Yokohama, and ordered to the *Oregon*.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ending Sept. 13, 1900:

Surgeon Preston H. Bailhache, granted leave of absence for nine days from Sept. 14.

Surgeon Fairfax Irwin, to proceed to Boston quarantine for special temporary duty.

Surgeon W. P. McIntosh, to proceed to Biloxi and Ship Island for special temporary duty.

Surgeon J. J. Kinyoun, to proceed to Victoria, Port Townsend and Astoria Quarantine, for special temporary duty.

P. A. Surgeon C. P. Wertenbaker, to proceed to Galveston, Texas, for special temporary duty.

P. A. Surgeon B. W. Brown, granted leave of absence for two months, from Nov. 1.

Asst.-Surgeon J. F. Anderson, to proceed to Liverpool, England, for special temporary duty.

Asst.-Surgeon Edward Francis, relieved from duty at New York City (Stapleton), and directed to proceed to the immigration station and report to Surgeon L. L. Williams for duty.

Asst.-Surgeon L. P. H. Bahrenburg, relieved from duty at the immigration station, and directed to proceed to Liverpool, England, reporting to Asst.-Surgeon J. F. Anderson at U. S. Consulate for duty.

Acting Asst.-Surgeon R. E. L. Buford, granted leave of absence for one month from November 3.

Acting Asst.-Surgeon S. Gomez, granted extension of leave of absence for ten days from Sept. 19.

Acting Asst.-Surgeon J. A., Moncure, directed to proceed to Brunswick quarantine, and assume temporary charge of station for thirty days from Nov. 3.

Sanitary Inspector Lea Hume, to proceed to Galveston, Texas, and report to Surgeon Peckham for special temporary duty.

Hospital Steward S. W. Richardson, granted leave of absence for twenty days from Oct. 1.

Hospital Steward G. C. Allen, relieved from duty at Delaware Breakwater, and directed to proceed to Mullet Key Detention Camp and report to medical officer in command for duty and assignment to quarters.

Hospital Steward E. T. Olson, relieved from duty at Mullet Key Detention Camp, and directed to proceed to Washington, D. C., and report to Bureau for duty.

APPOINTMENT.

Malcolm McKay reinstated and appointed senior hospital steward.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Sept. 15, 1900:

SMALLPOX—UNITED STATES.

Alaska: Cape Nome, Aug. 18, 3 cases.

Colorado: Jefferson County, Aug. 28-Sept. 1, 11 cases; Las Animas, Aug. 28-Sept. 1, 1 case.

Kansas: Wichita, Sept. 1-8, 1 case.

Louisiana: New Orleans, Sept. 1-8, 2 cases.

Minnesota: Minneapolis, Sept. 1-8, 1 case; Winona, Aug. 28-Sept. 4, 3 cases.

Ohio: Cleveland, Sept. 1-8, 2 cases; Dayton, Sept. 1-8, 1 case.

Texas: Eagle Pass, in Mexican portion of town, Sept. 7, 1 case.

Utah: Ogden, Aug. 1-31, 2 cases; Salt Lake City, Sept. 1-8, 1 case.

West Virginia: Wheeling, Sept. 1-8, 1 case.

SMALLPOX—FOREIGN.

Austria: Prague, Aug. 18-25, 2 cases.

Belgium: Antwerp, Aug. 18-25, 1 case.

Brazil: Rio de Janeiro, July 13-30, 38 cases, 10 deaths.

England: Liverpool, Aug. 18-25, 6 cases; London, Aug. 18-25, 1 case.

India: Bombay, Aug. 1-14, 6 deaths; Calcutta, Aug. 4-11, 7 deaths; Karachi, Aug. 5-12, 1 case, 1 death.

Mexico: City of Mexico, Aug. 26-Sept. 2, 4 cases, 5 deaths.

Russia: Moscow, Aug. 11-18, 6 cases; Odessa, Aug. 18-25, 1 case; St. Petersburg, Aug. 11-25, 96 cases, 11 deaths; Warsaw, Aug. 11-18, 10 deaths.

Switzerland: Zurich, Aug. 11-18, 1 death.

YELLOW FEVER.

Brazil: Rio de Janeiro, July 13-20, 10 deaths.

Colombia: Barranquilla, Aug. 19-26, 1 death; Panama, Aug. 27-Sept. 1, 3 cases, 1 death.

Cuba: Cienfuegos, Sept. 8, 1 case; Havana, Aug. 2-Sept. 1, 249 cases, 23 deaths.

CHOLERA.

India: Bombay, Aug. 1-14, 695 deaths; Calcutta, Aug. 4-11, 35 deaths.

PLAGUE.

India: Bombay, Aug. 1-14, 105 deaths; Calcutta, Aug. 4-11, 52 deaths.

Philippines: Cebu, July 14-21, 1 case; Manila, July 14-21, 4 cases.

Turkey: Constantinople, on S. S. *Niger*, from coast of Asia Minor, Aug. 27, 1 case.

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Original Articles.

ASEPTIC MINOR GYNECOLOGY.

WITH DEMONSTRATIONS.*

AUGUSTIN H. GOELET, M.D.

Professor of Gynecology in the New York School of Clinical Medicine, etc.

NEW YORK CITY.

It is my purpose to submit to my colleagues, both in gynecological and general practice, some of the fruits of my observations and to suggest some improvements in technique, the outcome of personal experience, which will, I hope, prove useful. Progressive men are ever ready to improve their methods, hence suggestions are always acceptable. We may all learn something from each other; some detail that one may lose sight of may be suggested by another's methods. The general practitioner often does excellent work in our line, and we may gain some points from him. I shall hope, therefore, to have a full discussion of the subject from that side of the house also.

It is easy enough to be clean in every-day gynecological work. It is either a matter of taste or habit. Yet, you know very well, cleanliness is one of those good habits for which some never acquire a taste. One who is clean as a matter of taste is more to be trusted than one who is obliged to acquire it as a habit. Like all good habits, it is hard to acquire, and is then seldom proficient. To be strictly surgically clean, one must be naturally so inclined. An acquired habit is not often unfailing unless, perhaps, it is a bad habit.

Would you permit a man with habitually dirty finger-nails, or who is careless about his linen, to examine a member of your own family? I should not, if he was the most distinguished gynecologist in the land. If it was unavoidable, I should want him to wear rubber gloves, though he washed his hands, and I should want to furnish the gloves, fearing, if he used his own, he would bring them wrapped in his handkerchief.

Nowhere is cleanliness more important than in every-day gynecological work, both for the protection of the patient and the physician himself. Patients have been infected not infrequently by a failure of proper aseptic precaution, as we all know. Physicians themselves have been infected while examining patients, when they have not taken proper precautions. The genito-urinary specialist runs less risk than the gynecologist, because the necessity for precaution is constantly before him to suggest it. Let not the physician think he will offend his patient by methods to attain asepsis in simple gynecological examinations. On the contrary, it pleases her to see that she is taking no risk of contamination because the physician is taking none himself.

As evidence of the imperfect attempt at asepsis in some instances, I will cite one or two incidents. I have seen men prepare for abdominal operations, and after scrubbing and disinfecting their hands, run their hand down in their pocket, pull out a pen-knife and clean the finger-nails, then put on a sterile gown and proceed to operate. With these men cleanliness is not a matter of taste. An attempt has been made to acquire it. I know men who make a great fuss about asepsis and in their preparation for an operation they remind you very much of a slow horse that is making a great effort to get over the ground, and the casual observer would think he was making good time, but really he is slow, very slow. Such men are dirty, really very dirty. I have often overheard nurses criticise their methods because they could see that with all their fussing they failed in asepsis.

The importance of cleanliness in every-day gynecological work can not be over-estimated. It always reverts to the benefit of the physician, as well as to the patient, and inspires confidence. If the patient sees that her attendant is particular for himself as well as for her, she may feel safe. Those who are themselves clean and particular will certainly be favorably impressed, and those who are not may profit by it as a suggestion. It is just as easy to be clean in routine office-work, and it requires no more energy than to be unclean. Everything should be done in an orderly and methodical manner and everything about should bear the mark of precision. Careless, slipshod and untidy methods actually consume more time, because details are not carried out in their proper order; many require repetition, and one may interfere with the other.

Arrangement of the Examining Table.—The examining table should be arranged ready for use, with a fresh, clean, white cover, and pillow with clean case. A fresh, clean napkin should be spread over the pillow for every patient. This should be removed and replaced by a fresh one in her presence after she leaves the table. A clean sheet, neatly folded, should be in readiness to cover the patient. At the foot of the table there should be placed a clinical air-cushion, which I show you. It has the following advantages. It is only twelve inches deep, which permits it to be used on the table for office examination, when the patient's clothing is not loosened about the waist, since the cross-bar of the air-cushion is below the waist line, when it is adjusted in proper position. The downward curve of the cross-bar is useful for the same reason. It is only fifteen inches across the widest part, so that the buttocks rest on, instead of between, the arms of the cushion. The stiffening between the lower ends of the lateral arms of the cushion prevent it and the flap from becoming wrinkled up. The strap is to fasten it in position on the table so that it will not slip around, or it may be utilized for strapping the cushion to the patient for operative work.

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*Presented to the Section on Obstetrics and Diseases of Women, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

This pad is used to protect the table and the clothing of the patient from getting wet. Over this may be spread for each patient a fresh square of white rubber sheeting. After being used, these squares are washed and sterilized.

Arrangement of Instruments required on Side-Table, with Absorbent Cotton, Gauze, Tampons, etc.—The instruments needed should be selected from their cases, where they are kept when not in use, and placed in a flat pan and covered with some antiseptic solution that will not injure or tarnish them. This should be done beforehand and the dish covered with a clean towel to conceal them from view, since some nervous patients have a dread of instruments. All instruments should be kept brightly polished and should be replated when they begin to show wear. This can now be done at so little cost that no one need neglect this little item. The aphorism that a workman is known by his tools is quite true, and should be borne in mind. The tray or dish containing the instruments should be placed on a low table conveniently to the right of the physician as he faces the foot of the table. All things likely to be needed for the examination, as sterile absorbent cotton wads for sponging, gauze and cotton prepared for tampons with strings attached, or prepared wool for same, are placed in separate glass jars with covers, on a lower shelf on the same table holding the instruments. On the same shelf should be placed such remedies as may be needed, such as glycerin, iodin, and a solution of iodin in glycerin, 1 part to 32, which is to be preferred to other mixtures with glycerin, as boroglycerin or ichthyol and glycerin. This should be placed conveniently at hand before beginning the examination or treatment of the patient.

Under this table should be placed a deep receptacle—a deep cuspidor, for instance—for depositing waste cotton wads after they have been used. This receptacle should be deep and have a rather contracted mouth or neck, so as to conceal from view what is thrown into it.

Reservoir and Irrigating Apparatus.—A reservoir containing an antiseptic solution for irrigation should be placed conveniently upon a door-frame or window-frame, and should be arranged on a slide, with pulley for raising and lowering for convenience in refilling and to get the required elevation. This reservoir, for office work, where it can be permanent, is constructed preferably of a large glass percolator, of two-quart capacity, with rubber tubing, eight or nine feet long, attached. This tubing should have a large caliber, so as to convey a stream of considerable volume. The necessity for a wide-mouth reservoir, such as a percolator, is that it may be more readily washed inside.

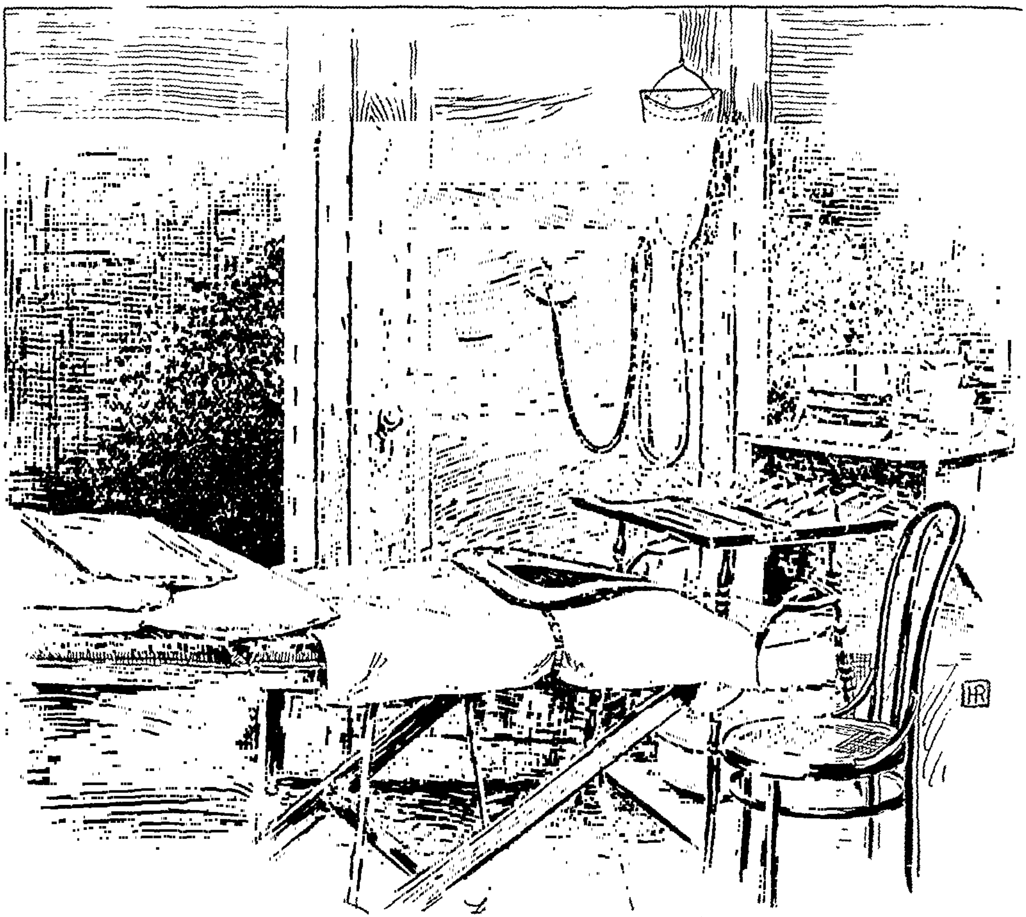


Fig. 1.—Interior of physician's office arranged for aseptic gynecological work.

Necessity for Washing and Sterilizing the Hands.—While the patient is being placed on the table by the nurse the physician washes his hands, for no examination should be made with unclean hands. If he is not so fortunate as to have a nurse to assist him, he places the patient in position on the table first and washes his hands afterward. This is essential, as the hands will become soiled in handling the clothing or shoes, which he may be obliged to touch in getting the feet into right position.

The necessity for sterilizing the hands before making a vaginal examination can be appreciated if the fact is recalled that infecting germs exist on the hands of every individual under ordinary conditions and even after ordinary washing. The staphylococcus is always present, as shown by actual bacteriological tests, and very often the streptococcus also. A suggestion as to the method of washing the hands may, therefore, not be amiss. It is well known that ordinary soap does not clean the hands, nor does ordinary washing. Scrubbing with a stiff brush and a reliable antiseptic liquid soap is essential. I have employed for this purpose, with much satisfaction, a liquid soap—synol. It does not roughen or injure the hands, but, on the contrary, makes them soft. This soap should be kept in a receptacle over the basin, preferably of glass, with a contrivance that will permit the necessary amount to escape into the hands by pressing a button attached to a lever. Thus, there is no chance of contamination of the whole when a small quantity is needed. The soap should be well rubbed into the hands and around the fingers and nails, by rubbing them together, then it is washed off by a stream of warm water from the faucet, then with more soap and a nail-brush, the hands, fingers and nails are scrubbed thoroughly. Before the scrubbing is finished the nails should be cleaned, preferably with a flat, dull-pointed stick. Then they are again scrubbed, and finally the soap is rinsed off under a stream of warm water. The stream is preferably regulated by foot pressure which controls both the hot and cold water, so as to avoid touching the handles of the faucet in turning it on. I have found, by actual bacteriological tests, that this will positively destroy both the streptococcus and staphylococcus on the hands with five minutes' scrubbing.

Method of Placing the Patient on the Table.—The manner of placing the patient on the table is important. She should be directed to place her back to the foot of the table, and while the nurse or physician stands in front of her holding the sheet spread out between them, so as to conceal her movements perfectly, she is directed to pull up her skirts well behind and sit back on the edge of the table with the skirts free above it. Then she lies back on the table, the sheet is thrown over her, covering her completely, and the feet are lifted into position upon the steps, which should project beyond the foot of the table some seven or eight inches, so that the buttocks may come to the edge of the table. The rubber cushion being in position on the table, the buttocks are now resting on this. Either she or the nurse now draws aside the drawers, which are usually split up the back, thus getting them out of the way, outside of the inflated rim of the air-cushion on each side. The bare buttocks are therefore resting on the cushion, and there is no risk of wetting the clothing.

Antiseptic Irrigation of the Vagina.—Unless inspection of the vagina is necessary, before making a digital examination, or unless it is necessary to take specimens of vaginal secretions for microscopic examination, the nurse should now proceed to irrigate the vagina and vulva with an antiseptic solution. If there is no nurse present, this, though very embarrassing to both, must be done by the physician. I wish to say a word as to the method of irrigating the vagina to secure cleanliness. The usual method is most ineffectual. To do it perfectly it is necessary to distend the vagina and its folds and to permit the solution to escape with a gush. In order to accomplish this readily I have had made a vaginal irrigator with shield. It consists of a hard rubber or glass nozzle, with slits in the end instead of holes, so as to permit the solution to escape more rapidly. This vaginal nozzle is inserted through the opening in the shield, to the back of which is attached the tubing from the reservoir. This shield has a concave surface three inches wide by five inches long, which fits the vulva. It is covered with soft rubber with a raised rim around the circumference. The vaginal nozzle is inserted and the shield pressed up against the vulva snugly. The water from the reservoir is permitted to flow into the vagina until it becomes distended, then the shield is withdrawn a short distance and the water is permitted to escape with a rush. This maneuver is to be repeated until the reservoir is exhausted. The shield serves the double purpose of compressing the vulva and preventing the escape of the solution so as to distend the vagina, and at the same time protects the hand holding it from contact with the escaping solution. This is the only absolutely reliable method of cleansing the vagina. Each shield is furnished with two of the soft-rubber covers, so that one may be in use while the other is being sterilized.

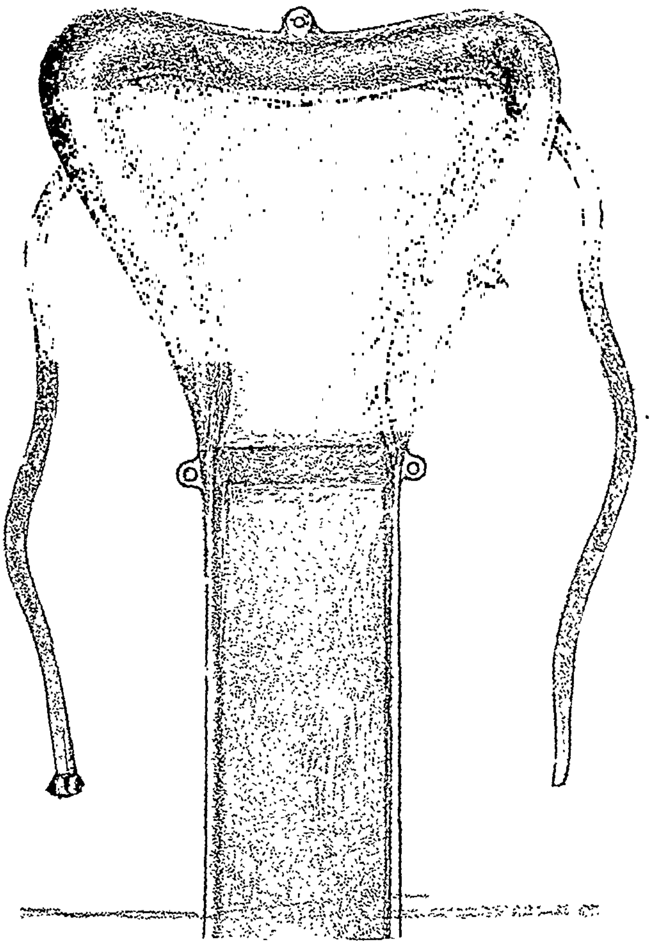


Fig. 2.—Clinical air-cushion for office table or operating table.

The antiseptic employed for this irrigation should be one that is effective without being irritating. I prefer a 1 per cent. solution of the antiseptic soap which I employ for washing the hands, and have found it most satisfactory, on account of its soapy character, in removing the secretion that sometimes adheres quite tenaciously to the vaginal walls and its folds.

Lubricant for Finger and Speculum.—The lubricant employed for the examining finger and instruments is most important, both from the standpoint of cleanliness and comfort of the patient, as well as for the physician. I have abandoned all forms of grease, because they adhere to the parts and are not easily removed, and because they can not be removed from the hand without hard washing and scrubbing. The soap used [illegible] washing the hands I [illegible] convenient [illegible] agreeable. It is easi [illegible] hand by ply placing it under a stream of water. It is removed from the vulva by wiping with a damp cloth or absorbent cotton. The same lubricant is used for the speculum. Besides being convenient, it possesses the additional advantage of being antiseptic.

Method of Making Digital Examination of the Vagina.—If a suspicious vaginal discharge is encountered, however, it is wiser to employ rubber gloves or rubber finger cots, when a digital examination of such cases is required. A digital examination should be made with one finger, since just as much can be felt by employing one properly, and it will reach just as far, if the knuckles are not doubled up. The outside fingers should be straightened out and made to slip between the folds of the buttocks. In this manner the reach of the index finger is much increased. The insertion of two fingers into the vagina, besides being unnecessary, is most unpleasant, and even disagreeable, to the patient. Both hands should be used alternately for palpating the appendages, since the palmar face of the finger-end is more acutely sensitive and the touch is more reliable when the finger and hand are straight, than when bent over awkwardly to palpate the opposite appendage. Therefore the index finger of each hand should be educated, and a physician should be able to palpate equally well with either.

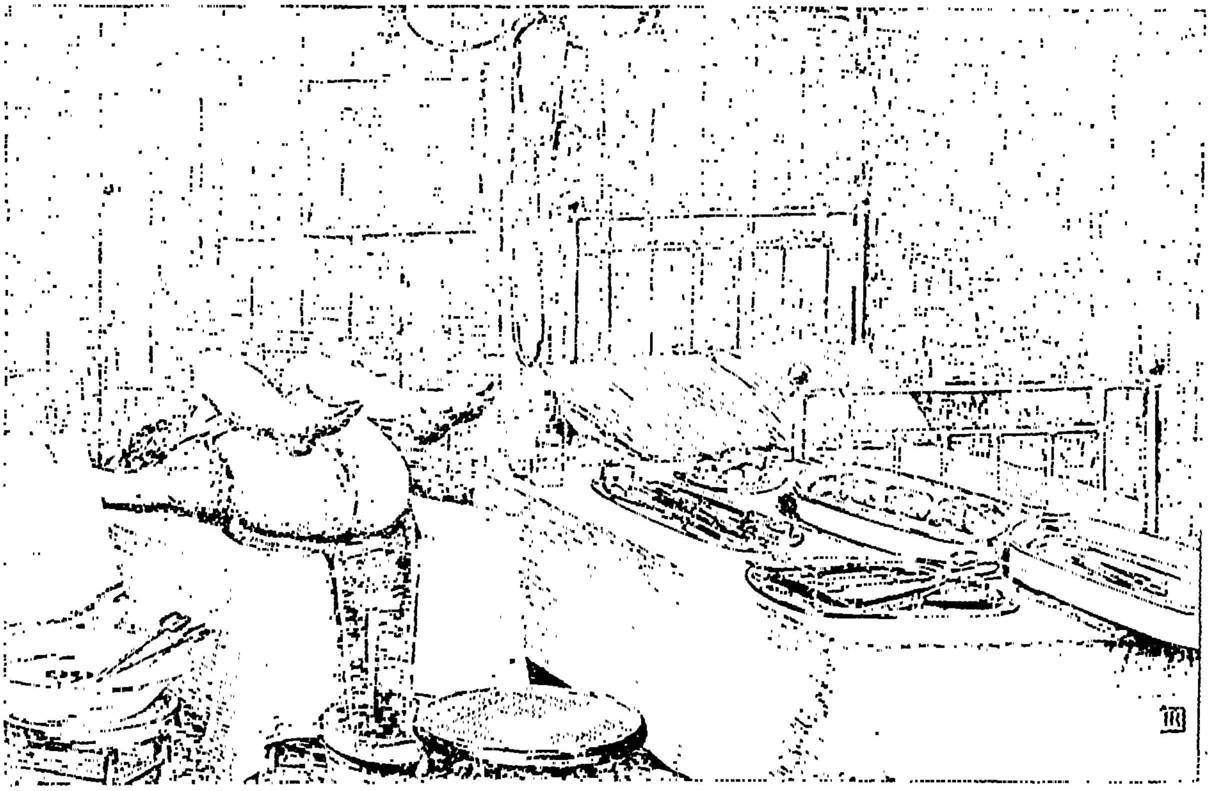


Fig. 3.—Emergency case in connection with operation in private house.

Method of taking Specimens of Secretion for Microscopical Examination.—When it becomes necessary to take specimens of vaginal secretion for microscopical examination, which is most important, since we should know the character and significance of every discharge that is encountered in this line of work, though it is often neglected, a sterile speculum is inserted into the vagina, preferably a simple perineal retractor. This is lubricated on the outer side and inserted deeply into the vagina, the end of the beak passing into the cul-de-sac behind the cervix. A loop of platinum wire fastened in a glass handle is sterilized by passing it slowly several times through the flame of an alcohol lamp or Bunsen burner. With this a specimen is taken from the urethra by inserting it within the meatus and turning it around or gently pressing it against the sides. Another similar sterile platinum loop is selected and another specimen taken from the vaginal wall or side of the cervix at the cervico-vaginal fold. Still another is inserted well into the cervix after the visible secretion at the external os has been wiped away with a pledget of sterile absorbent cotton in the grasp of a dressing forceps. As each specimen is taken, it is deposited on a clean cover-glass and teased out into a thin film with the platinum loop. Then it is placed under a bell glass to dry. When dry it is fixed on the cover-glass by passing the reverse side quickly through an alcohol flame or Bunsen burner twice. I will not go into the details of staining and mounting these specimens, as it is understood by most of you, and those not familiar with it can readily find it described elsewhere.

Uterine Irrigation.—Besides irrigation of the vagina, which is done solely for the purpose of securing cleanliness, and seldom by the physician as a therapeutic measure, irrigation of the uterine cavity is frequently necessary, both for the purpose of securing cleanliness and drainage of the cavity, and also for therapeutic purposes. For this purpose I employ a clinical double-current irrigator. It is small enough to be inserted through the cervical canal in most instances where irrigation is required. In conditions requiring irrigation, the canal is usually larger than normal, though it is not invariably so. Where it does not enter readily, a piece of rubber tubing may be slipped over the outside, insulating it to within two and a half to three inches of the end, and converting it into an electrode temporarily, there being an attachment at the outer extremity for connection with the cord from the battery. By using this connected with the negative pole of the galvanic battery for a few moments with a moderate strength of current (10 M.), it will slip by the constriction. Where there is much constriction in the canal, it is best to continue the current during the entire irrigation, which will facilitate subsequent drainage by relaxing the canal.

There is considerable advantage in having the outer tube or canula as long as it is in this instrument, because it conducts the outflow outside of the vulvar orifice, where it may be emptied into a basin held under it. The outer tube broadens from a point two and a half inches from the point to the exit, which obviates blocking of its caliber. The inner tube, which conducts the in-flow, terminates at the point of the instrument, and the opening is a lateral split similar to a gas-tip. This is for the purpose of projecting the liquid from the point of the irrigator tube, and the split is to permit it to escape laterally if the end impinges against the fundus.

I have found that irrigation of the uterus is the most satisfactory method of treatment for endometritis, both where curettage is necessary and when it is not. After curettage it is particularly useful to remove debris, clots and secretion, which will collect in the cavity and prove a source of irritation if not removed. When medication of the surface is necessary, it is certainly the most satisfactory and least objectionable method of making an application, since an application thus made is most thorough to the whole surface and none of the solution is left behind in the cavity to provoke irritation.

Cleansing of Instruments.—After instruments have been used, either for operative work or for simple examination of the female genitalia, they should be thoroughly cleansed and sterilized before being used again. They should be placed immediately in a 2 per cent. solution of the antiseptic soap, where they are allowed to remain for five minutes. They are taken out of the solution and scrubbed with a stiff brush if they have come in contact with blood or pus, particularly the parts where there are serrations and about the locks. Double-bladed instruments, such as forceps, dilators and scissors, should be taken apart and all parts thoroughly washed. Scissors blades and scalpels are dipped into the soap full strength and wiped off thoroughly with a bit of gauze. When instruments are tarnished, they should be scrubbed with the finest grade of sapolio on a bit of gauze. When this does not brighten the surface or remove roughness, they should be repolished or replated. After the instruments have been carefully washed in this manner, they are placed in a sterilizer partially filled with a 1 per cent. solution of the synol soap and are boiled for three minutes. They are then laid away in a case on glass shelves. Cutting instruments, scissors and knives are not boiled with the other instruments, but are immersed in a boiling solution of the soap separately for two minutes.

In office work, a sterilizer may be kept boiling in a convenient place and the instruments may be placed in it each time after they have been used, but they should be first washed.

When instruments are required for immediate use and time can not be spared for sterilization by boiling, they may be quickly sterilized by placing them in a pan and pouring over them a small quantity of alcohol, which is then ignited. After the alcohol has been permitted to burn for half a minute, if there is too much alcohol to burn out in that time, water is poured over them from a pitcher and the flame is extinguished. Burning alcohol is a very hot flame, and the temper of instruments would be destroyed if submitted to it for too long a time, hence it is not well to let it burn for more than half a minute.

When not in use, instruments should be kept in a closed case, free from dust, on glass shelves. They should be cleansed and sterilized before they are put away as described above, and if one should be taken out and handled it should be sterilized before it is put back into its place; thus instruments are kept always ready for use. It is wiser, however, to boil them for two minutes again immediately before they are used, because dust may settle upon them from the opening of the doors of the case containing them.

Asepsis in Examination at the Patient's Home.—Asepsis is quite as important when patients are examined or treated at their homes. If the physician will go prepared for it, it is as readily attained here as elsewhere. Everything that may be needed to secure perfect asepsis should be taken with him in his bag, including antiseptic liquid soap, sterile absorbent cotton, gauze, sterile nail brush, etc.

The average practitioner does not, perhaps, possess the necessary gynecological instruments that may be needed in cases which he may be compelled to treat, and, as a rule, his outfit is exceedingly meager. If he knew just what he would want, he would, undoubtedly, possess himself of them. Recognizing this, I have suggested to Messrs. Knauth Bros. to make up this aseptic gynecological emergency case with instruments. I have endeavored to select those instruments most essential and to omit those that are superfluous in order to economize space and weight.

Aseptic Gynecological Emergency Case with Instruments.—The case consists of two aseptic white enameled oblong or square basins which fit together, forming a bottom and top, and the instruments are compactly arranged on three metal trays, which may be lifted out without touching the instruments. These basins are to be used as aseptic trays to hold instruments during an operation or examination. Being already clean, it is only necessary to take from the trays such instruments as will be required and place them in one of the basins and cover them with an antiseptic solution. Then proceed with the work in hand.

GYNECOLOGICAL EMERGENCY CASE.

First or upper tray contains: 5 curettes, one sharp and four dull, of different sizes; 2 uterine irrigators, one, the larger, for use in operations, and one smaller clinical irrigator for use in office.

Second or middle tray contains: 1 uterine dilator, 1 needle forceps, 1 angular tenaculum forceps, 1 combined uterus dressing forceps and placental forceps, 1 uterine packing forceps.

Third or bottom tray contains: 1 long-handled, sharp-pointed, curved scissors, 2 broad-ligament clamps, 1 vaginal speculum, 1 scalpel, 1 tenaculum, 1 shaving knife, 1 metal case of one dozen assorted needles, 1 metal box for dusting powder, 1 glass receptacle for liquid antiseptic soap, 1 glass receptacle for absorbent cotton, 1 glass receptacle for absorbent gauze, 1 sealed tube of assorted ligatures containing chromic and plain catgut and silk.

The outer leather case holds, besides the instrument case, a clinical air-cushion, a portable rubber reservoir with tubing (9 feet) and with vaginal irrigating nozzle and vulva shield, and a simple leg-holder strap.

On the first tray there are two double-current irrigators; one, the larger, for use during operation after the cervical canal has been dilated; the smaller, f[illegible] clinical work without previous dilatatic [illegible] ca[illegible]

This case is placed, for con[illegible]

in a leather outside case with [illegible] been space allowed for packing away a three-quart rubber reservoir with pulley attached and tubing, vulva shield and vaginal nozzle and also a clinical air-cushion and leg-holder.

This irrigating apparatus can be placed high against the door-frame or window-frame, as a hook with screw accompanies it. There is also attached a pulley for raising and lowering it for convenience in filling and to obtain readily the required height for the work in hand. The rubber reservoir is made with wide mouth to permit the inside to be washed out. It can be rolled up with shield and tubing complete so as to occupy a very small space. The rubber air-cushion can also be rolled up in a small package, small enough even to be carried in the pocket.

With a case of this kind complete, the practitioner who is compelled frequently to ride long distances in the country will be able to cope with any ordinary gynecological case that he may unexpectedly encounter.

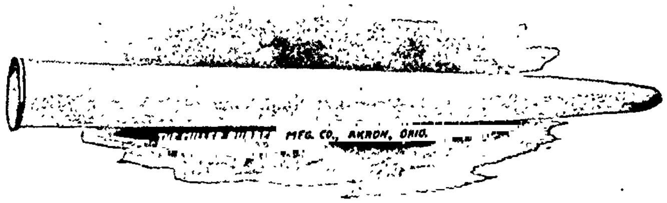


Fig. 4.—Aseptic rubber cover for sponge or laminaria tent.

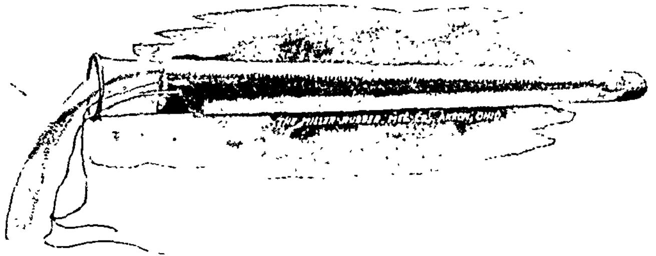


Fig. 5.—Aseptic tent cover, showing tent inserted with gauze around it ready for insertion into the canal of the cervix.

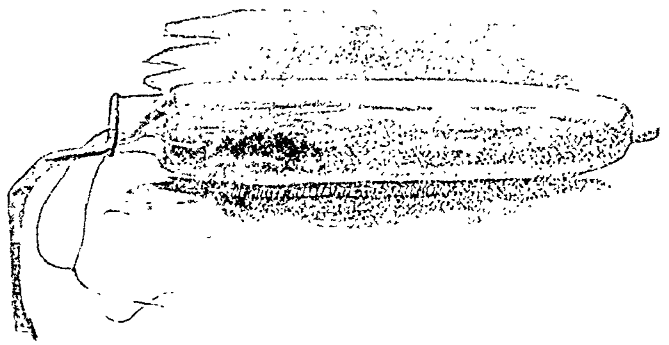


Fig. 6.—Showing aseptic tent cover with expanded tent within after it has been removed from the cervix.

The price of the case complete is so reasonable that it is certainly within the reach of every practitioner.

In making examinations or doing minor operations at private houses, the bed or couch should never be used. A kitchen table is easily obtainable in every house, and this can be readily converted into an examining table. This should be placed conveniently near a window and covered first, either with a blanket folded several times or a thick quilt. Over this is placed a fresh, clean sheet, which is folded over at the corners and pinned down with safety pins. The rubber air-cushion is placed in position at the foot of the table and everything is ready for work. On a smaller table or chair placed to the right of the physician, as he faces the foot of the table, are placed the trays containing the instruments to be used. Then the irrigating reservoir is filled and the hook screwed into the window-facing, preferably to his left. Before beginning there should be placed in readiness an extra pitcher of the solution for refilling the reservoir when it is exhausted, so there may be the least possible delay during the procedure.

Where slow, gradual dilatation of the cervix by sponge or laminaria tents is required, I have succeeded in accomplishing it in a perfectly aseptic manner by employing the sponge-tent cover made of rubber. These have been made for me by the Miller Rubber Mfg. Co., of pure gum, very thin, and they stretch easily. Hence, they offer the least possible resistance to the expansion of the tent. The method of using them is as follows, viz., a narrow strip of sterile absorbent gauze is folded over the point of the tent and down along each side, one end being left longer than the other. The gauze is now wet by dipping it into water. The cover, previously sterilized, is then slipped over the tent covered with the strip of gauze, the long end of which is left hanging out of the mouth of the cover. The tent is grasped in a pair of forceps by its lower end outside of its cover and inserted into the cervical canal. The vagina is then filled loosely with absorbent gauze which is made thoroughly wet. The capillary action of the gauze strip over the tent within the cover takes up the water from the gauze in the vagina and wets the tent, causing it to expand. Thus the tent expands inside of the cover and does not come in contact with the canal. Therefore a perfect aseptic, gradual dilatation is secured.

The physician's first duty is always to his patient, and her interest and security should be kept constantly before him. She must, therefore, be impressed with the importance of what is being done and must under no consideration be permitted to think any detail unimportant, or that she may with impunity neglect herself or miss appointments. Above all things, the case must not be dismissed nor must the patient be permitted to discontinue treatment until cured. She must be made to realize that relief of symptoms does not necessarily constitute a cure, and that the physician is the only one competent to decide this point. He must have her entire confidence, to be successful. Without this he would better not undertake the case. Her confidence can not be gained by incompetent and imperfect methods.

DISCUSSION.

Dr. J. M. Duff, Pittsburg—This has been a very important paper, one especially directed to the general practitioner. I want to call attention to one thing that I think the Doctor did not elucidate so as to bring out the best results, that is with regard to washing out the vagina. If you take the trouble to experiment, you will find that if you flush out the vagina and clean the vulva, and then go to work with your hands afterward, you are going to carry germs into the vagina. Hence, the important thing is to get the vulva clean. The normal secretions of the vagina are germicidal in themselves. If you do not sterilize the cervix before you introduce instruments into the uterus, where you have a catarrhal endometritis without the presence of pus-producing germs, you are very liable to carry them in and produce a septic condition. No matter whether or not we have a leucorrhea, it is a well-established fact that we do have latent germs in the cervix which can be carried up and infect the uterus. I may have misunderstood the Doctor, and if I have he did not bring this point out plainly.

Dr. L. H. Dunning, Indianapolis—I do not quite understand whether the essayist recommends his technique as a routine practice in general office work, or not. If so, and he had twelve patients, it would require one hour to scrub the hands and another hour for scrubbing the vagina, and if the doctor has only two hours to spend in his office, there would be absolutely no time left for treating more than one patient. It seems to me that in applying tampons to the uterus, where the cervix is not entered, it will not be necessary to adopt all of his technique. I am under the impression that we can disinfect the vagina just as well by scrubbing as by irrigation and in one-half the time. If I desire to make an irrigation of the uterus I should disinfect by scrubbing with antiseptic soap and sterile cotton, using the Sims' speculum. We can do better in ten minutes than by irrigating half an hour, and the method is a much more cleanly one.

Regarding the technique for the ordinary application of the tampon in a private home, I think that if we have the nurse prepare everything for us before leaving the office and have the patient properly cleaned before we get there, it will be unnecessary to adopt this technique. The point of objection is the time it takes. I am sure that I could not get through with half my work if I had to go through all this preparation. The method I have resorted to is to have my nurse prepare my bag, sterilize two sets of instruments wrapped in sterile towels, so that I can make two visits. I instruct the patient on a previous visit how to prepare herself, and as soon as I arrive she takes the proper position and a very little time is lost in treating the case. After having treated two cases I return home for another outfit.

Dr. J. Wesley Bovee, Washington, D. C.—I consider it almost an absolute impossibility to sterilize the hands by a five-minutes scrubbing with antiseptic soap or anything else. You may make a culture and find them negative, but the hands are not sterile nevertheless. I should suggest the use of the rubber glove if we want to be particular, which for my part I am not. I do not believe that we can scrub the vagina and vulva sufficiently well for sterilization without an anesthetic. In the second place, I believe that the vaginal secretion is usually able to take care of the vagina. We do not need so much scrubbing if the ordinary well-washed hand is passed through the vulva widened by the fingers of the other hand. This is readily realized by recalling the many normal opportunities for such infection. If we went through all this technique in minor gynecology, we certainly would not have sufficient time to do our work, if we have more than one patient. Furthermore, you go to the house of one patient and before you can see another you must go home and sterilize your instruments.

Dr. William H. Humiston, Cleveland—I was very much interested in Dr. Goelet's paper. I yield to no man in carefulness in making examinations. I do not believe, however, that it is necessary to follow absolutely Dr. Goelet's instructions in making an examination. As Dr. Duff has stated, the danger from infection is not from the vaginal secretion, but from what exists on the vulva. I clean thoroughly the external parts. The ordinary office treatment of the uterine organs is harmful. I have yet to see the first case of any gravity successfully treated by ordinary office treatment, but I do meet with many cases which if they had been properly and aseptically treated early while the condition was a simple one, would not have gone on to the condition where they required active surgical interference. I had a physician come to me a short time since wanting to know how I could explain a certain case. A patient came to him with a leucorrheal discharge and suffering from dysmenorrhea. He treated tentatively for a time, but she did not improve. Finally, he concluded to curette the uterus a little at a time every third day, in his office, permitting the patient to walk home afterward. Within a week patient had a chill, high fever and an active pelvic inflammation. On examination, he noticed a marked change, the uterus being fixed and the roof of the pelvis as hard as a board. He wanted to know what to do. You can readily understand that he converted a simple condition into a complicated septic process by not instituting proper aseptic treatment and operation. These cases should be treated thoroughly. If after an examination a chronic condition is found, I do not believe that the case can be cured by office treatment. It requires a minor operation with hospital facilities. Then you can anesthetize, cleanse the vagina and vulva, which can not be well done without the aid of a brush, and you avoid many perils of careless office treatment with non-sterilized instruments. My office work is limited almost exclusively to examinations; further treatment, if necessary, is given in the hospital.

Dr. M. F. Porter, Fort Wayne, Ind.—In the cleansing of the vagina, or any part, I am of the opinion that we oftentimes do harm with the stiff brush. A few bacteria will not do very much damage in the presence of an intact covering. It is this idea that has led me to use something soft, like gauze pads or sponges, in cleansing the vagina and vulva. Then, I have the satisfaction of knowing that when I am through with my cleansing process, if I have not obtained an aseptic condition, I have at least not increased the number of infection atria. I do not believe that any amount of douching or distension, or both, will leave the vagina clean. I simply want to enter my protest against the use of a stiff brush. Another point in connection with aseptic technique: The doctor has referred to the fact that all of us are occasionally guilty of lapses in our technique. One of the best ways to rid oneself of these is for the doctor himself to have it distinctly understood by all those around him that the humblest individual is not only free but is invited to call the operator or his assistant's attention to any lapses which may occur. Each one of my assistants and nurses is told when he comes to work for me, that if he sees me about to err in my aseptic technique, he is at perfect liberty to call my attention to it and I thank him for doing so. None of us are perfect and we must never forget it.

Dr. Goelet, closing the discussion—I have learned considerable from this short discussion. One thing I have learned particularly is the necessity for such a paper as this. Asepsis of the vulva can be accomplished only by scrubbing, but for ordinary office work such an irrigation as I have described is sufficient. My paper is upon minor, not operative, gynecology. With this douche we also cleanse the vulva and when necessary to have it especially clean, I ask the nurse to scrub it. My portable rubber reservoir I use for work at the patient's house, where irrigation is required. As to cleansing the hands I agree that it is a very difficult matter to free the hands absolutely from germs, but I have had bacteriologic tests made of the hands after scrubbing them for five minutes with the antiseptic liquid soap mentioned, and all cultures taken after such scrubbing have remained sterile in every instance. There should be no objection to the time required for cleansing the hands. I am surprised that such objection should be raised. It takes nearly five minutes for the patient to get ready and to put her in position on the table, and while the nurse is preparing the patient, you can be scrubbing your hands. You owe this to your patient. Besides, such methods are going to bring more patients than slip-shod methods. There is no doubt about that. Women appreciate cleanliness in their physician.

I regret that there was not more said about the sponge-tent cover, as I have found it very satisfactory, although I do not restrict myself to that method of dilating the cervical canal.

Auto-Intoxications in Tropical Climates.—*Crespin* describes a hepatic form of typhoid fever common in Algiers and attributes the gravity of infections in tropical climates to insufficiency of the liver. The high temperature and the high hygrometric condition create a uniform medium unfavorable for the play of the reflexes. Consequently the emunctories, and especially the liver, are deprived of the excitations necessary for their normal functioning and hence remain torpid. On these grounds he has been administering liver extract in several cases of infections in his tropical practice, and has been highly pleased with the results; the hemorrhages and the delirium in particular rapidly improved. He recommended this organotherapy for further experiences at the International Medical Congress.

RESECTION AND ANASTOMOSIS OF THE DIVIDED URETER.*

HOWARD A. KELLY, M.D.
BALTIMORE, MD.

I desire to lay before the Section on Gynecology several matters in connection with resection of the ureter; and I shall take the liberty of including under my title not only those cases in which a piece of the ureter is sacrificed and the ends brought together—uretero-ureterostomy, resection in the stricter sense of the term —but those cases as well in which the vesical end of the ureter is sacrificed and the upper end is anastomosed directly into the bladder—ureterocystostomy—cases which for practical purposes may be included in the same category.

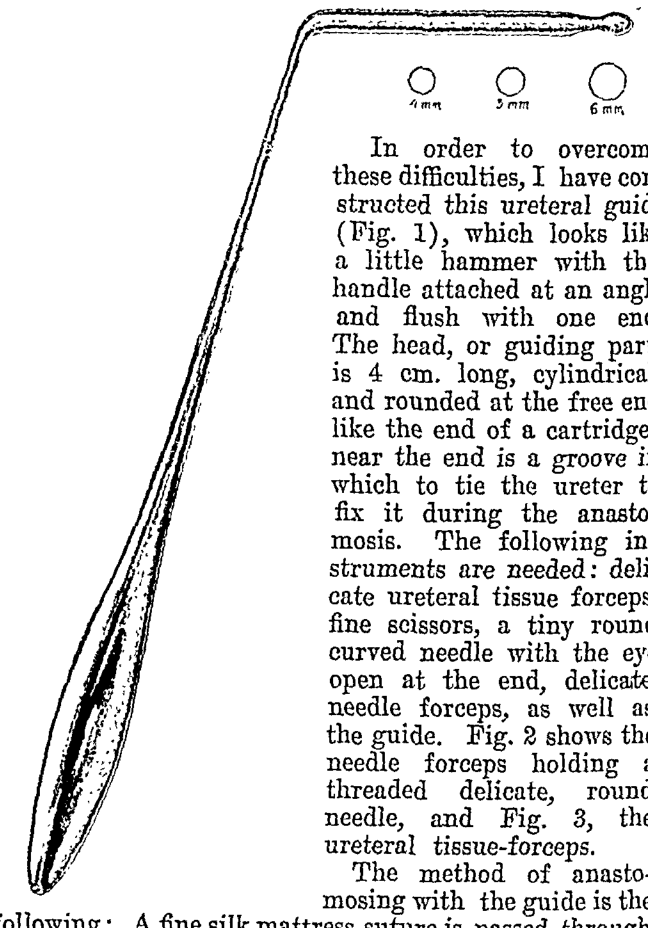
The importance of my subject is enhanced by two factors, measured by the importance of the ureter as an emunctory, and by its liability to injury in the course of an abdominal or of a vaginal operation. The difficulty in the way of a successful performance of a ureteral anastomosis can only be appreciated by one who has tried for the first time to secure accurate apposition of structures so delicate without unduly injuring the tissues and without allowing the silk sutures, which must be used, to appear on the mucous surface to form nuclei for the subsequent formation of calculi. I take it that a ureteral anastomosis is about as difficult and as delicate a piece of surgical work as we are called on to execute upon the human body, fully as delicate as the most difficult operation on the eye.

Injuries of the ureter requiring anastomosis are almost exclusively surgical, that is to say, they are produced in the course of operations when they can often be detected at once and immediately repaired. It is a fact of the utmost importance for the successful anastomosis of the injured ureter that the injury is almost invariably confined to the pelvic portion of the ureter, and if any part is sacrificed the loss is limited to the pelvic end. The injury is, for the most part, involuntary on the part of the operator, as when he cuts a ureter for a blood-vessel, or unwittingly picks it up, as I did recently, along with the ovarian vessel at the pelvic brim and ligates and divides it there. In other instances it is torn out of the pelvis with an adherent ovarian cyst, myoma, pyosalpinx, extrauterine pregnancy, or tubercular mass. A voluntary sacrifice is made when the ureter passes through a carcinomatous mass in the broad ligament.

It is my desire to-day to throw some light upon the important practical question, how to deal with a divided or a resected ureter. In the first place it is important to make sure that the ureter is a live one. Occasionally the disease which necessitates the pelvic operation has so completely occluded the ureter that it is dead, and if brought out into the surface of the body no secretion escapes from it. This has happened in some five cases which I have collected from the literature; one of the first was a patient of Schröder's, in which the divided ureter was sewed into the abdominal incision but no secretion ever escaped from it. One of the last was a case of Dr. Fullerton, also seen by Dr. C. P. Noble, in Philadelphia, with the view of determining the functional value of the ureter. I would pass my hand into the abdomen and see if the patient had a normal kidney on that side. If it proved to be atrophied or sclerotic I would then not go to the trouble of making a delicate anastomotic operation.

There are two ways of anastomosing the injured ureter: 1, anastomosis of the ureter into itself—uretero-ureterostomy; and 2, anatomosis into the bladder—ureterocystostomy.

Uretero-ureterostomy is to be preferred when both ends are accessible, and when there is no obstruction between the lower end and the bladder, and when the lower end does not have to be sacrificed as in extensive carcinoma. Anastomosis into the bladder is the best way to restore the continuity of the urinary tract when the lower end of the ureter has been destroyed, is blockaded, or is inaccessible. Anastomosis of the ureter into itself is best adapted to joining the divided ends in the posterior part of the pelvis, between the pelvic brim and the broad ligament. The success of an anastomotic operation depends on the accurate union without injury of the delicate ureteral structures; and this is rendered difficult by their flaccidity and sometimes by the difference in caliber.



In order to overcome these difficulties, I have constructed this ureteral guide (Fig. 1), which looks like a little hammer with the handle attached at an angle and flush with one end. The head, or guiding part, is 4 cm. long, cylindrical, and rounded at the free end like the end of a cartridge; near the end is a groove in which to tie the ureter to fix it during the anastomosis. The following instruments are needed: delicate ureteral tissue forceps, fine scissors, a tiny round curved needle with the eye open at the end, delicate needle forceps, as well as the guide. Fig. 2 shows the needle forceps holding a threaded delicate, round needle, and Fig. 3, the ureteral tissue-forceps.

The method of anastomosing with the guide is the following: A fine silk mattress-suture is passed through the under surfaces of the cut ends and tied, bringing them snugly together. A longitudinal slit is then made in the upper part of the ureter 2 cm. distant from the end, just large enough to admit the guide easily. The rounded end of the guide is then pushed through the slit into the ureter down through its open end and well into the lower end, where it is loosely tied behind the swelling at the head to hold it in place during the passage of the rest of the sutures (Fig. 4). The end-to-end anastomosis is now completed by passing fine silk sutures, either interrupted or mattress, with the sides very close together, at intervals of from one to one and a half millimeters, including all the coats except the mucosa. During the suturing, the ureter can be rotated from side to side by moving the handle of the guide. At the completion, the string tied around the lower end of the guide is cut and the guide withdrawn. The success of the suturing may now be tested by injecting water with a syringe through the cut and seeing it flow freely down toward the bladder without leakage at the junction of the ends. The slit is next readily closed by three or four fine mattress sutures of silk as after any other simple ureterotomy.

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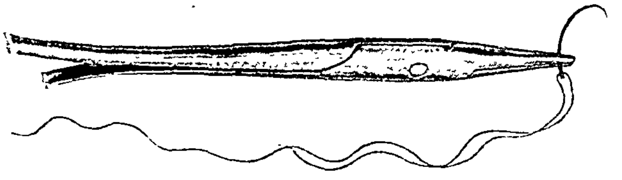
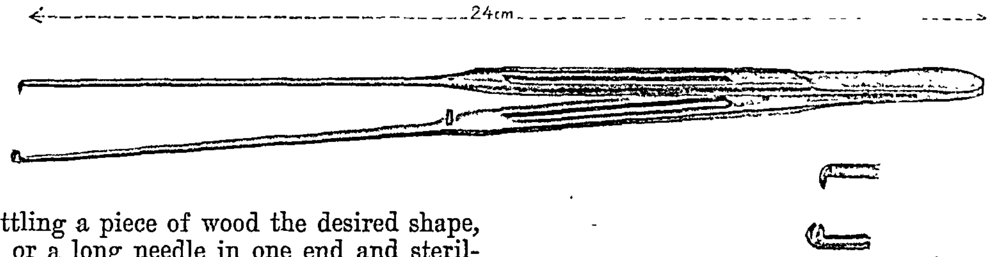
*Presented to the Section on Obstetrics and Diseases of Women, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

I have the guides made in three sizes. When there is a marked difference in caliber between the upper and lower portions of the ureter, I use the larger size to dilate the smaller end and to facilitate the exact end-to-end approximation. There is a good deal of just complaint about the multiplication of special instruments, but no instrument is *de trop* which facilitates a difficult and a delicate operation. The surgeon who rarely has to do these operations can easily extemporize a guide by whittling a piece of wood the desired shape, fixing a thread or a long needle in one end and sterilizing this very satisfactory makeshift and using it as above described.





The anastomosis of the ureter into the bladder is effected in a similar way. A hole is made in the top peritoneal surface of the bladder and the guide slipped in and the right or left vesical cornu pushed out in the direction of the divided ureteral end, and an opening made at the nearest point, just large enough to admit the ureter. The end of the guide is then slipped well up into the ureter and tied, and the ureter, with its lower end slit up for at least half a centimeter, is drawn well into the bladder and stitched on all sides to the muscular vesical wall. After this the guide is removed and the abdomen closed with a small gauze drain in event of leakage.

The following cases are ureteral anastomoses I have made in the Johns Hopkins Hospital for a variety of injuries:

Case 1.—Cancer of the cervix, involving the ureter on the right side; vaginal operation. The anterior portion of the ureter was deliberately sacrificed with the uterus and the upper end anastomosed at once into the bladder. Recovery; anastomosis perfect,

Case 2.—Ureter involved in a cancerous ovary in a woman 72 years old. Deliberate sacrifice of the ureter from the pelvic brim forward. Ureter stitched into bladder. Recovery; no leakage.

Case 3.—Cancer of the cervix, abdominal operation. Ureter involved; sacrificed. Anastomosis into the bladder. Recovery; no leakage.

Case 4.—Ureter attached to a large fibroid tumor involving ilium, cecum and vermiform appendix. Resection of 9 cm. of ureter, ends brought together. Some leakage at first; afterward perfect recovery.

Case 5.—Ureterovaginal fistula and vesicovaginal fistula; anastomosis of ureter by abdomen into bladder. Recovery; leakage from vesicovaginal fistula.

Case 6.—Ureter involved in malignant ovarian tumor. Enucleation with removal of almost the entire pelvic ureter; anastomosis into the bladder. Death on the third day from unknown cause. Autopsy not allowed.

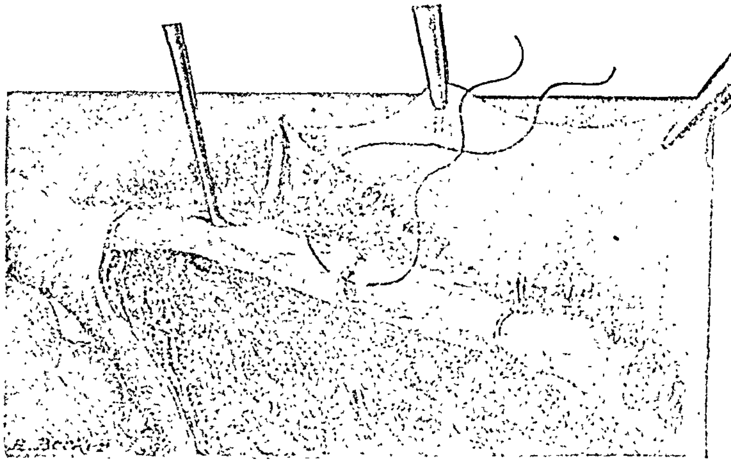
These operations were all done by the older free-hand method, and I have not yet used the guide on the living subject.

Case 1.—Ureter imbedded in a mass of carcinomatous tissue. Divided 2 cm. from bladder; resected and upper end implanted into the bladder; recovery. (Gyn. No. 6831.) Mrs. S. L., white, aged 35 years.

Diagnosis: Carcinoma cervicis uteri, extending laterally into the broad ligaments well onto the lateral walls of the pelvis, and anteriorly well out into the perivesical tissue.

Operation: 1, Thorough curettage of the cervix, removing as much as possible of the friable carcinomatous tissue. 2. Catheterization of the ureters. 3. Abdominal hysterosalpingo-oöphorectomy. 4. Ureterocystostomy.

After removing the uterus, tubes and ovaries a distinct carcinomatous nodule still remained on the right side, extending well out to the pelvic wall and upward to the bladder. After some dissection the ureter was found markedly displaced, running downward from the bladder and then sharply curving on itself to run directly upward, being entirely surrounded by diseased tissue. It was found impossible to dissect out this nodule without injuring the ureter, so it was at once severed 2 cm. below the bladder. The nodule was then thoroughly and most carefully dissected out.



Implantation of the ureter into the bladder was accomplished in the following manner. A sound was introduced into the bladder and pressed firmly down upon the bladder wall a little anterior to the orifice of the ureter; the bladder wall was then incised just over the sound; next, the lower end of the ureter was split for .5 to 1 cm. down its lumen to avoid constriction. This end was then introduced over the sound and passed into the bladder. The next step was to very accurately approximate the bladder wall around the ureter, the end of which was now standing erect inside of the bladder. Approximation was neatly and accurately accomplished by passing catgut sutures through the outer portion of the bladder surface, then just lightly catching the surface of the ureter, catgut sutures only being employed. The first few of these sutures were passed just at the edge of the bladder [illegible] then into the ureter; the [illegible] t [illegible] ner hold o [illegible] and a larger bite into the ureter at a greater distance on its surface from its point of entrance into the bladder.

The patient made a perfect recovery, with no leakage from the bladder.

Case 2.—Ureter surrounded by carcinomatous tissue and resected from the pelvic brim to the bladder. Anastomosis of upper end of ureter into bladder. Recovery. (Gyn. No. 7372). Mrs. M. F., white, aged 72 years.

Diagnosis: Cystoma of both ovaries. Carcinomatous degeneration of the right cystoma.

Operation: 1. Abdominal hysterosalpingo-öophoro-cystostomy. 2. Ureterocystostomy.

Removal of the cystomata with the tubes and uterus was extremely difficult—slow and painstaking—on account of numerous exceedingly dense adhesions to the small intestines and the rectum on all sides. When the left cystoma and the uterus were tied off and freed they still remained attached to the cystoma on the right side, which was also gradually freed, but was found to contain at its base a cancerous mass extending down in the broad ligament to the ureter, which it surrounded. The tumors and the uterus were then removed in one mass and the remainder of the operation directed toward the removal of the cancerous tissue in the broad ligament. This was slowly enucleated by tying on all sides in the sound tissues and removing the ureter with it from the pelvic brim forward to its vesical portion. The ureter was then implanted into the bladder in the following manner: The bladder was separated anteriorly from its attachments to the anterior abdominal wall sufficiently to throw it well back and allow the ureter to reach it near the fundus. On the right side of the pelvis an opening was made through the peritoneum, where it was reflected from the bladder onto the pelvic wall; the ureter was carried through this and thence into an opening made into the bladder, where it was securely stitched by several small silk sutures. The junction of the ureter and bladder was in this way made extraperitoneal. The opening into the peritoneum was about 3 cm. from the point of entrance into the bladder. The connective tissue and the bladder wall were stitched over the point of junction of the ureter and bladder, thus reinforcing the line of original sutures. The implantation of the ureter in this manner puts it on considerable tension.

Result was excellent. No urinary fistula nor any sign of leakage from bladder.

Case 3.—Ureter embedded in carcinomatous tissue; its lower 5 or 6 cm. resected; upper end implanted into bladder. Recovery. (Gyn. No. 7510.) Mrs. S. C., white, aged 56 years.

Diagnosis: Carcinoma cervicis uteri. Bicornuate uterus with left rudimentary horn, left tube absent.

Operation: 1, Curettage of cervix uteri. 2. Catheterization of ureters. 3. Hysterosalpingo-öophorectomy.

The operation was begun by the abdomen on the left side. The first ligature was applied at the junction of the round ligament and the ovarian ligament, the ovary being left behind. Dissection was continued along the wall of the pelvis until the ureter was exposed and bared to its entrance into the bladder, 5 to 6 cm. The vesical peritoneum was then pushed well down; the ureter was pulled gently toward the pelvic wall and the dissection continued toward the vagina beneath it, all vessels being tied as they were reached. The right side was begun in the same way. On reaching the ureter it was found passing through the carcinoma. It was dissected free up to its entrance into the growth, where it was cut off. The dissection toward the right pelvic wall was continued apparently outside of the carcinoma. The vagina was now entered anteriorly and the enucleation continued around the vagina, leaving a cuff of vaginal wall on the uterus on all sides. The uterus, with its carcinomatous extension, was then removed. A long clamp was pushed into the bladder *per urethram* and an opening made by cutting down on it from above. The end of the ureter was split for about 5 cm. A silk suture was then passed through the ureter and through the bladder opening and the bladder wall at a lower point and the end of the ureter drawn into the bladder. It was sutured here with fine silk sutures. Peritoneum was brought over both ureters.

Result excellent. No leakage from bladder.

Case 4.—Ureter, terminal portion of ileum and vermiform appendix and commencement of large bowel inseparably attached to a large abdominal fibroma. Resection of 9 cm. of ureter, 16 cm. of ileum, 14 cm. of large intestine, and removal of vermiform appendix. Recovery with a persistent ureteral fistula. (Gyn. No. 7521.) M. P., negress, aged 33 years.

Diagnosis: Large solid abdominal tumor, extremely vascular, having inseparable attachments to the bowel and the ureter. (It was found by microscopic examination to be a fibroma.)

Operation: An attempt was first made to shell the tumor out of its capsule, but the bleeding was so profuse on incising it that this plan was abandoned. The only remaining plan of procedure was to remove the entire tumor with the adherent portion of the bowel and ureter. The vermiform appendix was seen on the under surface of the tumor, on the upper surface the head of the cecum and ascending colon spread out with the lower end of the ileum. The portion of the intestine removed includes the terminal 16 cm. of the ileum and the proximal 14 cm. of the large bowel. The portion of the ureter removed measures 9 cm. in length. The ends of the intestines were next united by end-to-end anastomosis without the aid of bags or LaPlace forceps, three preliminary sutures bringing the ends into approximation; next a row of mattress fine-silk sutures and a few intermediate Lembert sutures. The mesentery, which well supplied the intestine with blood at the point of anastomosis, was united by sutures. The ends of the ureter were next united by end-to-end anastomosis. The upper end was much larger than the lower, the ureter being dilated above the tumor and atrophied below it. The lumen of the kidney end of the ureter was at least twice the size of the bladder end. Suturing was difficult and the approximation was, on account of the difference in size of the lumina, not as satisfactory as could have been desired. After completing the anastomosis, pressure on the ureter above caused a distension above the point of union. The ureter was also quite tensely stretched, owing to the removal of so large a section of it. A gauze drain was placed in contact with both anastomoses and brought out of the lower angle of the wound.

The patient made a good recovery, but was discharged with a persistent ureteral fistula.

Case 5.—Ureterovaginal and vesicovaginal fistulæ, surrounded by dense scar tissue. Division of the ureter just in front of the uterine artery and closure of the vesicovaginal fistula. Recovery, with persistence of vesicovaginal fistula. (Gyn. No. 7569.) L. C., white, aged 46 years.

Diagnosis: 1. Adherent, myomatous uterus. Tubes and ovaries also adherent. 2. Ureterovaginal fistula. 3. Vesicovaginal fistula.

Complications: 1. Scar tissue involving the vaginal opening of the ureter. 2. Periureteritis.

Operation: (Twenty-four days prior to the present operation the patient had been operated on for complete laceration of the rectovaginal septum and at the same time an unsuccessful attempt was made to close the ureterovaginal fistula.)

After removing the uterus, tubes and ovaries in the usual manner, from left to right the stump of the cervix was grasped with tenaculum forceps and pulled up and to the right. The ureter was exposed just below the pelvic brim by pulling open the layers of the broad ligament. It was about two and a half times its normal size and injected, not white. The ureter was caught and dissected out by carrying the finger under it and pushing on down and freeing it forward without detaching it from the peritoneum. In this way the vessels crossing the ureter were brought up into view and tied without risk of involving the ureter. The ureter was then tied well forward just in front of the uterine artery and divided back of the tie. The bladder was now opened for 5 cm. in the median line and its interior inspected. It was found healthy and the vesicovaginal fistula was seen out by the left pubic ramus, 8x3 mm. The bladder was opened in the left cornu at a point near the ureter by introducing forceps and pushing the wall out at this point and cutting down on the forceps. The ureter was incised for 7 mm. and then drawn into the bladder by fine forceps passed in through the incision above and out of the hole made for the ureter. The ureter was then sewn into the bladder opening with fine silk, grasping all but the mucosa in the bladder wall and ureteral wall.

The vesicovaginal fistula was closed by denuding the mucosa and uniting with fine catgut.

The incision into the bladder above was closed with a line of catgut sutures. A finger was thrust under the peritoneum on the left side, making a hole down to the ureteral anastomosis for an extraperitoneal gauze drain. The peritoneum was united over the ureter and the bladder and peritoneum closed entirely.

There was for a short time after operation some leakage from the bladder, a small amount of urine escaping through the abdominal incision via the drainage tract. This fistula closed entirely before the patient was discharged from the hospital.

A vesicovaginal fistula persisted after the operation.

Case 6.—Ureter involved in a malignant tumor, resected above the pelvic brim; implantation of the upper end of the ureter into the bladder. Sudden death from unknown cause on the third day after operation. (Gyn. No. 7653.) Mrs. R. D., white, aged 67 years.

Diagnosis: Left cystoma ovarii with malignant disease at its hilum extending into the broad ligament.

Operation: 1, Hysterosalpingo-öophorocystectomy. 2. Ureterocystostomy.

When the cyst on the left side was brought out it was found to be anchored fast, the left broad ligament being infiltrated with a mass of dense nodules. It was impossible to expose the broad ligament and see the vessels, so I lifted up the sigmoid and cut the peritoneum over the pelvic brim on the outer side and dissected it up and exposed and ligated the ovarian vessels first 3 cm. above the pelvic brim, then on the ovarian side and cut between the ligatures. The left round ligament was then enucleated from the pelvic connective tissue, clamping the left uterine cornu and all bleeding vessels and lifting it up *pari passu*. The ureter, which was adherent to its under surface, was cut on the front of the broad ligament and posteriorly above the pelvic brim. The anterior end was about half the size of the posterior, small and delicate, and retracted out of sight, being found only at a later stage—after opening the bladder and passing a catheter down the ureter from the vesical end—when it was tied to prevent any possible reflux of urine. The entire uterus and the right lateral structures were removed.

The next step was the anastomosis of the ureter into the bladder. I did not try to bring the two ureteral ends together, as the front end was so small and restricted, and moreover the bladder could be brought farther back than could the vesical end of the ureter.

The bladder was loosened and pulled back on the left side until it touched the posterior brim of the pelvis. I then opened the bladder by an incision 5 cm. long in the median line anterior to the peritoneum. The urethral and ureteral orifices were seen and there was no disease in the bladder. The portion of the bladder which could be displaced farthest back toward the ureter was found anterior to the left vesical cornu. An artery forceps was pushed through at this point, catching the ureter and drawing it into the bladder. It was split 5 mm. and turned open and caught with four mosquito-forceps, and then sutured from the vesical side, catching the whole thickness of the ureter and the mucosa and submucosa of the bladder. In this way was accomplished a perfect attachment of the ureter without any narrowing of its lumen, which opened trumpet-like into the bladder. The incision into the bladder above was closed. The bladder was then drawn up and attached to the pelvic brim and to the sigmoid.

After operation there was some leakage from the bladder, as indicated by the escape of urine via the pelvic drain.

The patient died suddenly on the third day after operation from an unknown cause. Autopsy was not allowed.

DISCUSSION.

Dr. L. H. Dunning, Indianapolis—I was very much interested in the paper of Dr. Kelly, because it brings up so clearly a subject which confronts us occasionally in our operative work. I can see how the advice will be of assistance to us. Two years ago, I encountered a case such as he described, but I was not provided with special instruments for the purpose of bringing the ureter into the bladder. I finally resorted to a very simple method, which enabled me to effect that purpose with very good results. The ureter in this case was displaced by a pelvic cellular abscess occurring seven weeks after confinement. It was carried over the top of the abscess and accidentally torn in the operation. I introduced a uterine sound into the bladder through the urethra, carrying it to the point nearest the severed ureter, cut down on it, carried it through, reaching the ureter, into which I introduced the sound. Then, I gradually drew the ureter into the bladder, and fixed it there without any stretching. That little device of carrying it over the end of the uterine sound is what made our operation easy. I encountered a case a short time ago, in which I desired to graft the end of a torn ureter into the bladder, although subsequently I was glad I did not do such grafting. It was a case of cancer of the uterus, with suppuration of one tube and ovary. During the operation we injured the ureter, and four weeks afterward, when the patient had recovered from the operation I desired by abdominal section to fasten the ureter into the bladder. I washed out the ureter a few times, hoping to clean out the pus which had accumulated there, in order to prevent infection of the kidney. We found the pelvis of the kidney already infected so that I desisted from doing anything more to the ureter. I think extirpation of the kidney was in that instance the proper procedure. It was accomplished with the most happy results.

Dr. J. Wesley Bovee, Washington, D. C.—I did not hear all of Dr. Kelly's paper, but we all know the careful, scientific work that Dr. Kelly has done in this regional anatomy and pathology. The subject is one of considerable interest to me as I have spent much time on it in the last few years, having had a few cases of this kind. Many times this operation is necessary for cases other than accidental injury during the operations. A large proportion of injuries follow childbirth, as ureterovaginal fistula; a certain proportion are due to congenitally abnormal openings, abscesses rupturing into the ureter, tuberculosis and diseases of the ureter itself. I think there have been about 80 cases of ureteral anastomosis into the bladder, about equally divided between those due to injury and those due to disease.

Of the various operations I think uretero-ureteral anastomosis is the best. The next best is the switching of the ureter into the bladder; the next, into the vagina; the next, into the bowel, which is a much discussed question at the present time, and lastly, switching the ureter to the surface of the body. In the latter, infection is positive, whereas in implantation in the bowel there may not be any infection. The experimental work with the latter method is probably not as satisfactory on dogs as on the human being, owing to the small size of the dog's ureter. Then, too, we have no control over the animal after operation such as we would have over a patient. I think the extraperitoneal method of attaching the ureter to the bladder is better than the intraperitoneal, as it is practically a minor operation. The only danger, as Dr. Kelly mentioned, is the too great tension on the ureter. Pozzi found that in one of his cases ten months after an operation for hernia, the ureter was very markedly distended and at the junction of the bladder it was very much contracted. If there is too much traction on the ureter the caliber is decreased at the bladder junction.

Another point is to make the anastomosis as obliquely as possible. It is impossible to establish a condition anything like the normal, because of the little muscular structure running from the ureter to the orifice of the urethra, tending to pull down the mouth of the ureter as the bladder expands. About two years ago, in a case of cancer of the uterus, I found the ureter passing through a cancerous mass, and I removed the lower inch and a half, transplanting it into the bladder. That was a case of injury to the ureter and of transplanting it into the bladder by election. The patient is still alive and free from trouble. Dr. Polk, of New York, and Krause have performed this operation for the same purpose.

Dr. Kelly, closing the discussion—In anastomosing the ureter in the bladder I follow one of two plans. I either bring the ureter in opposition with the vesical opening by using one of my guides, or I draw the ureter well into the bladder by means of a pair of alligator forceps suggested by Sänger for this purpose. The forceps are inserted through the urethra, and then through the bladder wall, and so used to pull the ureter into the bladder, when it is held and sutured there. I have a guide on the end of the forceps, in the form of a long tongue, which projects into the ureteral lumen, thus preventing any contraction of the ureter. The statistics are so meager that it is desirable to have all cases recorded, and I am sure there are many.

LESSONS FROM A FIRST SERIES OF ONE HUNDRED CATARACT OPERATIONS.*

F. T. ROGERS, M.D.
PROVIDENCE, R.I.

The man who fails to study his case records, and thus gain confidence by reason of his successes and profit by his failures, does not take advantage of the best way of perfecting his medical education, begun in college; he is at his graduation but ready to learn. The successful physician is one who appreciates this fact and finds in each case fresh instruction, in each success added confidence, in each failure a warning of incomplete preparation.

It is neither because I can add to the sum of human knowledge by a recital of personal experiences, and instruct this Section concerning the technique of cataract extraction, nor gain personal glory or added notoriety that I report these cases, but because during six years of attendance at these meetings I have not heard adequately discussed the results of cataract extraction from a beginner's standpoint.

Masters of operative skill have reported their cases by hundreds. We are wont to listen with admiration to their recital of good results, but aside from the incentive to renewed exertion we gain little practical good. I am speaking to-day to the younger element, the tyros of operative skill, in the hope that profit may result to them from the discussion of evident mistakes and the bad results obtained just as I have personally gained by a study of these records.

I am at the start impressed by one fact, that a certain proportion of the bad results I have obtained has been due to the poor selection of cases. The young man beginning operative work is apt to allow his judgment to be warped by his desire for another operative case. The eagerness to operate overcomes the possibility that a successful result will not be obtained, and when but moderate vision is secured it may be due to the fact that the vision was not there as well as to some fault of the operator.

I am convinced that not enough attention was paid to the general condition of the patient, and that the ideas advanced before this Section three years ago by Dr. Knapp in regard to the effect of any systemic disturbance on the ultimate result were not sufficiently impressed on me at the time. The existence of bronchitis, nephritis and rheumatism in patients undoubtedly influenced the healing process, although prior to the operation this did not seem important.

If, however, we operate upon patients to benefit them and not to gain a record for perfect vision, even partial success is to be desired if it ameliorates the condition and improves in any degree the vision of the patient. The operator who can change total blindness to even ability to get about, is deserving of some credit. As an evidence of this I cite one case:

Case 52.—Mrs. M. W., 64 years of age, suffered, in 1896, from acute glaucoma of the right eye, for which an iridectomy was done five days after the onset of the disease, when the patient was first seen; but the resulting vision was nil. L. V. was at that time 0.5 with +1.50. Two years later glaucoma of the left eye occurred, for which an iridectomy was done within twenty-four hours with relief of pain and slight improvement of vision; but within a month the lens became opaque and the patient totally blind. There was good perception of light but poor projection and I decided to operate for possible relief after a frank statement to the patient of the possibilities of failure.

An easy extraction with dense capsule and a secondary discission gave her an ultimate vision of 18/200 with +13, and her later years have been rendered happier, at any rate. Although by current rating this operation can not be classed a success, to my mind it is one.

The series includes operations upon the following:

Senile cataracts of varying degrees of maturity	92
Traumatic cataracts	2
Congenital cataracts	5
Soft cataract	1

The preparation of the patient has included the careful cleansing of the lids, lashes and brows with soap and water and a solution of bichlorid 1 to 5000, and in hospital cases the application of a bichlorid poultice for twelve hours before operation. When any secretion was noted on its removal the operation was delayed until the existing trouble had been treated. Cocain was used in all cases except four congenital cataracts, and just before operating the eye was flushed thoroughly with a warm solution of boric acid. The instruments were sterilized either by steam or formaldehyde and placed in absolute alcohol, and all dressings were rendered sterile by steam. I have no knowledge that any eye was lost by reason of carelessness in the preparation of either patient or instruments.

The after-treatment was in the ordinary room or ward and with a subdued light, but without darkening it; with few exceptions all dressings during the first week were done by myself. The results in acuity of vision were as follows:

Vision of 1.0, 6 cases; vision of 0.9, 7 cases; vision of 0.8, 14 cases; vision of 0.7, 12 cases; vision of 0.6, 7 cases; vision of 0.5, 14 cases; vision of 0.4, 9 cases; vision of 0.3, 7 cases; vision of 0.2, 3 cases; vision of 0.1, 8 cases; count fingers, 3 cases; light perception, 4 cases; nil, 5 cases. Total, 100 cases.

This shows an average vision of 0.502 and, if 0.1 be assumed as useful vision, 88 per cent. of successes, 3 per cent. of partial success and 9 per cent. of failures.

The operative procedure was: Simple extraction, 18 cases; extraction with iridectomy, 66; extraction following preliminary iridectomy, 8; needling, 7; suction, 1; total, 100.

Concerning the method of operating, I am convinced that difficulty in making a clean corneal section has been increased and the success of the operation endangered by insufficient illumination. Once, I have been obliged to withdraw the knife and postpone the operation on account of inability to see the blade distinctly when introduced into the anterior chamber. I believe that a routine practice of illuminating the field of operation by a condensing light, electricity in the hospital and an acetylene light in private houses, is a decided help to success. Outside of special hospitals it is difficult to gain skilled assistance and the surgeon is compelled to rely on himself. It has happened in my earlier cases that, while the fixation forceps were held by an assistant, interest in the operation frequently distracted his attention from his own duties so that undue pressure was made with the forceps; hence for several years I have not used an assistant but, holding the fixation forceps myself, I am able to make counter-pressure against the knife and thus aid its introduction and exit.

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*Presented to the Section on Ophthalmology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

A conjunctival flap was made in twelve cases, but there was so frequently a hemorrhage which obscured the field of operation that I have not lately used it save when accidentally made. In a large majority of cases the knife has, just before the completion of the section, been turned outward and the exit made in clear cornea about one millimeter from the sclerocorneal margin. Although such a section, it is stated, is more likely to entangle the iris and more liable to primary or secondary infection, it has not proved so in my experience. I have found the flap to close accurately, prolapse of the iris has been less frequent and I have seen no reason to discard the practice save that it is not advised in the books.

After the corneal section I remove the speculum, and make the cystotomy while holding the upper lid by pressure over the orbital arch. My losses of vitreous—seven cases—all occurred with the speculum in place. The accident has not occurred when the lid has been held.

Cystotomy has been made by the semicircular and crucial incision, and I am unable to detect any difference in the ease of extraction or the resulting condition of the iris and capsule. Simple extraction was done in but eighteen cases, the combined operation in sixty-six cases, and I am led to prefer the method with iridectomy for the following reasons:

1. In one sense it simplifies the operation, rendering it easier to expel the lens and soft cortical matter through the large coloboma, and lessens the frequency of secondary cataracts.
2. There is less danger of prolapse of the iris.
3. The clean excision of the iris is no more likely to cause inflammatory action than the traumatism to which it is subjected by the expulsion of the lens in simple extraction.
4. It requires less skill and delicacy of touch, and thus lessens the danger of complications.
5. With care in replacing the angle of the excised iris and any bits of capsule, there is no greater danger of incarceration in the lips of the wound.
6. It does not materially affect the mobility of pupil.
7. While the cosmetic effect is not so perfect as in the simple extraction, the upper lid so completely hides the coloboma that, even if the cosmetic effect was the desideratum instead of acuity of vision, there would be little in favor of the simple method.
8. Visual acuity is nearly the same; according to Gayet it is the same. In my cases the average vision in the cases of simple extraction is 0.48 and in the combined operation is 0.47. The proportion of complications in the two methods was as follows:

	Uncomplicated.	Prolapse of Iris.	Iritis.	Visual Acuity.
Simple operation; 18 cases	10 cases. 55 per cent.	5 cases. 27 per cent.	5 cases. 27 per cent.	.48
Combined operation; 66 cases	37 cases. 57 per cent.	1 case. 1.5 per cent.	14 cases. 21 per cent.	.47

The combined operation has its drawbacks: It is prolonged, more painful and possibly increases the danger of infection, although with the means at our command this is reduced to a minimum, but to the average man it is safer and gives as good or better results.

The ideal operation is the one with the preliminary iridectomy, and in eight cases where this was done there was uncomplicated healing in seven. Personally I am of the opinion expressed by many authorities that had I a cataract requiring operation I would have a preliminary iridectomy; one can hardly give better advice to a patient than that which he takes himself.

Artificial ripening of the lens was done in five cases, and was in every case entirely satisfactory. Preliminary iridectomy with gentle massage of the cornea sufficed to render the lens mature in from three to six weeks, and the extraction was invariably easy and satisfactory. The resulting vision was 0.3, 0.5, 0.9, 0.5, 0.7.

The suction operation was done once, with resulting perfect vision. The needle operation was done seven times with resulting vision of 0.3, 1.0, 0.9, 0.5, 0.6, 1.0.

Secondary discission was done in twenty-seven cases with a maximum increase of vision of 0.8, a minimum of 0.1 and an average of 0.4. Following the secondary operation there developed in four cases a mild iridocyclitis, in three a severe attack, but in all there was in time a complete subsidence of all inflammatory action.

Failure to obtain useful vision occurred in twelve cases. Of these, three are able to get about with difficulty, four have bare perception of light, and in five the eye was lost. This unfortunate termination occurred as follows:

Case 6.—A female patient, 65 years of age, was operated on at St. Joseph's Hospital. The modified Graefe operation was made without difficulty, and until the sixth day recovery was uneventful. She was treated in the open ward and on the evening of the sixth day a new patient was admitted and placed in the next bed. During the night a large psoas abscess was evacuated and the bed and bedding were well soaked with pus. Forty-eight hours later there was swelling of the lids, chemosis of the conjunctiva, and, in spite of treatment, panophthalmitis developed and phthisis bulbi resulted.

Case 38.—Simple extraction in a woman of 60 years. On removing the dressings on the second day there was found beginning panophthalmitis, and the eye was lost. I have no knowledge of the source of infection, save possibly this, that the operation was done in the presence of a number of physicians who were visiting the hospital and one had come directly from a case of puerperal septicemia.

Case 66.—Modified Graefe operation was made on a man of 75 years and in poor health. The operation was smooth, and aside from slight iritis there was an uninterrupted recovery but no vision. Examination showed almost complete detachment of the retina; it probably did not occur after the operation and it was an error of judgment to operate the case, although it may have occurred at the time of the extraction of the lens.

Case 89.—Female, aged 71 years, underwent a smooth operation and perfect convalescence until the eleventh day, when there was noted a slight puffiness of the lids with beginning chemosis of the conjunctiva. The dressings, solution of atropin and droppers were taken immediately to the state laboratory and were pronounced sterile, but the eye was lost in forty-eight hours. Examination of the purulent discharge showed a small rod-like bacillus of great activity which rapidly affected the culture-medium, but gave no intimation of the source of infection.

Case 94.—Male, aged 84 years, had the wound infected on the second day, and ten days later enucleation was done. This case was undoubtedly infected by the unclean fingers of the patient, as he tore the bandages from the eyes and rubbed them violently the first night and was so unruly that no covering could be kept on the eye.

Of the four cases resulting in perception of light two may be designated as accidents pure and simple.

Case 9, was a simple extraction of soft cataract. The operation was done in a boarding-house and the patient was on the third floor. During the night while the attendant was asleep he arose from the bed and went down the three flights of stairs to an out-house in the yard. Returning in apparent safety he miscounted the stairs and turned into the room on the second floor just under his own, and groping his way he deliberately crawled into bed with a man and his wife. Aroused from sound sleep by this unwelcome intruder the occupant of the room seized the patient by the collar, marched him to the door and calmly kicked him downstairs. The next morning I found the wound open and a large hernia of the vitreous. Recovery was slow but without useful vision.

Case 26.—On the seventh day while making an uneventful recovery, a fly crawled into the nose of the patient and caused a violent attack of sneezing. The wound was opened with loss of vitreous and a resulting iridocyclitis, which resulted in a blocked pupil and although two attempts were made to improve the vision by discission and an iridotomy the result was not favorable.

In Cases 20 and 60, iritis of a severe type on the fifth and sixth day produced a tedious convalescence and blocked pupil.

Case 91.—Male, 69 years of age, was referred to me by another oculist with a request that I operate on him in the hospital. The patient was not seen until on the table, when I found a large fleshy pterygium on the cataractous eye. Although my judgment was against operating, I finally did so, making the corneal section somewhat obliquely so as to avoid the pterygium. A severe keratoiritis developed and the ultimate vision was for large objects.

Case 88, was a hospital patient of exceedingly filthy habits, and there was an infected wound. Hot fomentations and the persistent use of pyoktanin checked the destructive process so that the eye was saved, but without useful vision.

Similar infection of the wound occurred in two other cases, one in private and one in hospital practice: The first was infected by the finger of the patient on the tenth day and, although the wound was infiltrated and the cornea like ground-glass, faithful and persistent use of hot fomentations and pyoktanin finally controlled the process and gave an ultimate vision of 0.8. The second case was infected on the fifth day and the vision for a week reduced to bare perception of light. Under the same treatment the vision finally gained was 0.6. Various minor accidents occurred which were annoying to both patient and operator, but did not materially affect the ultimate vision.

From a careful study of these cases and from experience gained in my first hundred operations on the lens, while perhaps not befitting me to give advice to others, I am able to draw the following conclusions which will at any rate guide me in future operative work:

1. More attention should be paid to the general condition of the patient, and the presence of any systemic disturbance should influence the prognosis.
2. All operative procedures on the crystalline body should be done under the best possible illumination.
3. Providing that it is large enough, the exact site of the corneal section does not materially influence the result.
4. The combined operation is the safest and the easiest for the operator of limited experience.
5. The most frequent complications, iritis and iridocyclitis, should be combated by the early instillation of atropin, and their existence does not necessarily prevent an ultimate good result.
6. Discission of the capsule can be done with comparative safety and materially increases the acuity of vision.
7. Infection of the wound does not in all cases destroy the sight, and careful and assiduous treatment may save an apparently doomed eye.
8. The experience gained in the first series of operations has, besides improving the technique of operation, impressed me profoundly with the possible dangers which may arise and will prevent me from advising operative procedures so freely as I have done in the past without a frank statement to the patient of the possible outcome.
9. For some reason, which I hope will be brought out in the discussion, I have had more iritis in these cases than I should, but whether due to defective skill in operating or insufficient care in the after-treatment I am unable to decide.

DISCUSSION.

Dr. E. E. Holt, Portland—I have been very much interested in this paper and I think we should all welcome reports of cases carefully taken down and the deductions made from them. When I began practice 25 years ago I found no satisfactory book for making records of eye cases and I devised one so that I could have a record of all cases, but I have made but few compilations therefrom, which is contrary to the resolve I made early in my practice. When I mention, however, that I have founded an eye and ear institution and begged and handled several hundred thousand dollars to build it and carry it on I think you will excuse me. I find, however, that in the records of the Maine Eye and Ear Infirmary I have operated some 500 times for cataract and in my private practice I think I have done as many more, so my experience is based on about a thousand operations for cataract.

In opening the discussion on this paper I am reminded that in the American Ophthalmological Society, when we have listened to a paper on cataract, it is passed by without discussion because members say there is so much to be said and no one is willing to undertake to start it. I shall confine my remarks to my personal experience.

In the preparation of a case for cataract operation I like to get acquainted with the patient and have him under observation at least a week before I operate, see that the bowels are all right and have him take certain baths and remedies that may be indicated. I have the face washed and all parts adjoining the face cleansed in bichlorid, and the conjunctival cul-de-sac washed out with a 1 to 5000 solution of bichlorid for a week or more before operation. I also look after the lachrymal sac, syringe it out with antiseptic solutions if need be, and examine the nasal cavity and mouth to remove all possible foci of infection. I like to use some weak mydriatic in order to examine the lens, to estimate its size and determine as well as I can how large a corneal section I shall make. I admit this is very difficult to determine in some cases, as we find some larger lenses than we anticipate. In my early career I operated with ether and did the modified Graefe operation with an iridectomy. For the last ten years or more, however, I have done the simple operation without iridectomy as a rule.

making the puncture and counter-puncture just at the corneal margin, and I like to make a small conjunctival flap, for I think I am less likely to get prolapse of the iris. In changing over from operating with iridectomy to operating without it I found that I had to learn a new technique, and one of the most essential points to observe is, after making the cystotomy, to make pressure on the lower border of the lens to tip the upper part forward and prevent its sliding up under the iris. In my early career I always practiced on the mask with pig's eyes before attempting an operation, and I think that it is very important for the young operator. I am sure I performed more than a thousand operations on pigs' eyes before I did many cataract operations on the human eye. The young man has plenty of time to do it and it gives him confidence in his hand and forearm, and when he has to operate he will do the operation very much better. I was very much pleased some time ago when I saw a book written on that subject, though I can not recall at this moment the name of the writer.

I used to wash the anterior chamber out when there was any amount of cortex left. I should not hesitate to do that now, although I think there is apt to be some irritation from it, but I do not find the occasion for it as I used to. I think the normal-salt solution sterilized is better than the pure water for this purpose. In dressing the eye I have for a long time been putting cotton over the eye and using isinglass plaster to hold it in place. Fifteen years or so ago I used a shield made of wire and also of pasteboard, but I abandoned them, for in my practice I thought I got more prolapses of the iris when I used them than when I did not. They are apt to become irritating to the patients and they make efforts to move about, causing spasms of the muscles, and, by the way, I think prolapse of the iris is more frequently caused by muscular contractions and spasms than by external violence.

When Dr. Ring brought out his eye shields I tried them, but I again abandoned them for the same reason I had before.

Dr. R. L. Randolph, Baltimore—I hope this paper will elicit some discussion as to the technique to be pursued in these cases. I have long maintained that the eye is endowed with natural powers that make it unnecessary to use bichlorid douches before the operation. While I am not prepared to say that its use in Dr. Rogers' case had anything to do with the iritis, I do not think he would have had any more iritis if he had abandoned the use of the bichlorid. I think the eye, more than any other part of the body, is endowed with antibacterial properties, and I make it a rule to use no bichlorid solution whatever. In the first 100 cases I reported I did use it; in the second 100 cases reported a few years ago, I used nothing, but simply sterilized my instruments and used sterile cocain. I would like to ask Dr. Rogers if he sterilized his cocain in these cases.

I am surprised to note the number of cases where he was successful in maturing the cataract. I have tried in ten cases, but succeeded only in one. Lately, I have abandoned cocain also in these cases and never use anything but holocain.

Dr. W. B. Marple, New York—I should think it would be interesting in connection with Dr. Randolph's remarks to know from the different gentlemen here whether or not they irrigate the eye before operation. Since Dr. Randolph's paper of a few years ago, I have used nothing but the sterile salt solution, and I would like to know if there are many who use no irrigation at all. Irrigation with some sterile non-irritating solution seems to me to be in many respects of decided advantage.

Dr. Albert E. Bulson, Jr., Fort Wayne—Aside from the general interest which a paper on cataract operations excites, this paper becomes of interest because the essayist recounts his failures and successes, with reasons therefor.

The point which I wish to make in discussing the paper is that, with the average operator, a preliminary iridectomy is usually unwarranted. It has always appeared to me to be an unnecessary risk to open the eye twice for the purpose of removing an opaque lens. The average ophthalmologist does not exceed fifteen or twenty cataract operations a year, and as every one of these cases must of necessity carry its weight of praise and blame, and as it is practical results which all patients desire, it behooves the operator to secure the best possible results as a minimum risk. In spite of the most exacting efforts to have an aseptic operation, occasions will arise in which infection alters what otherwise might prove to be an ideal result, and opening the anterior chamber twice paves the way for such a complication. I have never felt that the results with preliminary iridectomy averaged any better than the results with iridectomy at the time of extraction, and the patient certainly objects to two operations when one may be fairly stated to do as well.

I believe the combined operation for the average ophthalmologist to be, not only the easiest, but the best for securing practical results. It is usually attended with fewer complications, and but few patients will complain of the cosmetic effect, the main desire being to get vision, and it is this which brings out their praise.

Dr. J. L. Thompson, Indianapolis—These reports appeal to most of us because there are very few of us now that see as many cases as Knapp, or the Baltimore physicians, and very, very few of us get more than twenty-five cataract operations a year. I feel that one of my failures used to be due to the manner in which I used the speculum. That seems to bother a good many of the beginners. I used to open it very widely, but now I open it just as little as possible, to give enough room to work on the eye. Of course, I began when there were no antiseptics in use. In regard to cleaning the wound, I notice, if you go to Knapp's clinic, for instance, the great pains he takes to clean the wound and to put the iris back just as carefully as possible, but the beginner feels that he had better leave well enough alone, and he does not want to work over the eye too much.

I do not recall one case I ever lost where I made a preliminary iridectomy. We have so many cases where just a plain extraction of the cataract is out of the question on account of the small cornea; the deeply sunken eye, the shallow anterior chamber, etc. I would like to advise the beginner to learn to use both hands and to do an iridectomy.

Dr. Lucien Howe, Buffalo—I want to call attention to one point in regard to the difficulties with an assistant, and the necessity of having some one who rotates the eye or fixes it without pressing on it. Some years ago I presented a small pair of autofixation forceps, and I want again to call your attention to the advantage of not having another brain to depend on, but in having one's own fingers only involved in the operation. The little forceps on the speculum fixes the eye perfectly, and acts as our third hand.

YELLOW FEVER; ITS NATURE AND CAUSE.*

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From the earliest history of yellow fever in our country there have been evidences of its having been imported from some foreign place, usually the countries to the southward within the tropics. This importation has usually taken place during the prevalence of warm weather in the spring, summer or fall months, and could be traced to one of the intertropic endemic centers. During cold weather, the disease would disappear either entirely or to a great extent.

Its continued presence, however, from year to year in some of our southern cities, and its recrudescence with the advent of the warm weather of the spring, following its epidemic presence during the summer, induced numbers of prominent observers to believe that this disease was indigenous to our southern latitudes, and, like malarial infections, depended on unsanitary conditions.

The cessation of the fever following the institution of an adequate system of maritime quarantine protection for our southern seacoast cities, against such importation, was the convincing argument that is was essentially exotic. The continuance of an epidemic invasion of these latitudes depended invariably upon the continuance of heat and moisture, so much so, that close, humid and sultry weather became known as "yellow fever weather," for under such conditions the disease propagated more rapidly and became more fatal; while on the other hand, dry, temperate weather has been known to induce a cessation of the disease before the advent of colder weather. The appearance of the cold season has invariably been followed by a marked diminution in the number of cases at any center, endemic or epidemic; and those instances recorded of this disease, during cold weather, in temperate latitudes must have depended upon some special feature of exposure. As a matter of fact, they have been recorded in cities of the Northern States where the first hint of winter is sufficient to determine the almost perfect closing of houses against cold, and therefore, the enclosure of the specific organism in an atmosphere sufficiently warm to allow the propagation of the disease from person to person. In southern latitudes this barricade against frost is not nearly so complete, and it is not unusual for such communities to be caught unprepared for winter; within the infected homes, therefore, the germ is as much refrigerated as it would be out-of-doors. Isolated recrudescences, however, indicate that through special agencies the organism may pass safely through the season of frost, and produce the disease, under conditions of increased temperature. These deviations from the normal history of yellow fever are so infrequent that it is evident they depend upon such special influences.

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Within the tropics the disease is endemic under similar atmospheric conditions to those which determine its epidemicity, i. e., heat, moisture and unsanitary environment, the presence of témoines contributing to its endemic duration. In such centers the advent of cold weather, scarcely ever so frosty as 40 F., is followed by a notable cessation of yellow fever; and it is a clinical fact that during such seasons of cessation, as in the city of Havana, the cases which do occur are well marked and frequently have a fatal termination.

Such is the natural history of this scourge of the tropics, bête-noire of the southern states contiguous to them; it is that of an acute infectious malady, dependent upon an etiologic entity which exhibits a marked susceptibility to changes of temperature, this susceptibility finally causing the disappearance of the disease.

Yellow fever has also presented a uniform complex of symptoms which has served to distinguish it clinically from the other infections. Its onset may be either precipitate, or heralded by a series of prodromes such as are common to these infections. The course and termination of the disease do not seem to be in direct sequence to the onset; the precipitate cases becoming benign, and the mild onset frequently followed by the gravest symptoms.

In a characteristic case the temperature rises to its maximum within the first twenty-four to thirty-six hours; the pulse rising at first in proportion to the temperature. This, however, does not continue and there ensues a remarkable reduction of the pulse-rate, at the same time that the temperature continues to rise, or remains at its acme.

This is the first symptom in yellow fever that is of intrinsic value in the diagnosis of the disease. It was clinically recognized by early observers, but it was not until the introduction of the clinical thermometer enabled the elder Faget to accurately chart the temperature range, that this remarkable phenomenon was fully recognized to be of diagnostic importance. Faget established *avec l'aide de la montre et du thermomètre* the law of the non-correlation of the pulse and temperature, and it has been recognized, by all conversant with the disease, as of inestimable value in its diagnosis.

The prodromal symptoms of the infection, such as cephalalgia, rachialgia, pain in the eyeballs, the slight yellowing of the conjunctiva and scleræ, can be of only slight differential value. However, with the undoubted presence on the clinical chart of the phenomenon of Faget, the case assumes a more serious aspect, and the diagnosis will probably be confirmed by the later symptoms.

The next clinical feature of importance is also connected with the temperature chart. Upon the second or third day of the disease, it is usual for the temperature to decline, and there is a more or less marked remission, at times an intermission, of fever. There is no fixed time for the appearance of this fall in the temperature, but it is so confidently anticipated by clinicians of epidemic and endemic centers, that its non-appearance has often caused them to diagnose the malady as an infection of an allied nature.

The fall in temperature may be of one or two degrees, or it may reach the normal, or pass below it. Under all circumstances it is accompanied by a notable alleviation of the distressing symptoms, the patient entering a period of comparative calm, which may last from one to many hours. Indeed, it is possible that convalescence may be established at this stage, but in the characteristic type under consideration it is soon followed by an exacerbation of the temperature, which may rise even higher than during the "first paroxysm," and an exaggeration of other symptoms. The patient enters now upon the "third stage" of the disease, or into the "second paroxysm" of the fever, the paroxysms being separated by the "period of calm," or "second stage" of the disease.

This phenomenon presenting the two accessions of temperature, with a decline, the period of calm, separating them, has been recognized by southern clinicians as the most characteristic of all the symptoms of yellow fever; and it may be recognized, as outlined here, in all cases lasting from three to eight days. These variations of the temperature forming the three periods, or stages, of the fever have heretofore been regarded as inexplicable from a clinical standpoint, although many clinicians have advanced theories which did not satisfactorily account for them.

Among the clinical phenomena should be mentioned the "black vomit" encountered in this disease with such constancy as to name the disease in some countries "*vomito negro;*" also that phenomenon encountered postmortem, the extreme steatosis of the liver cells, which transforms the organ into a friable, yellow tissue incapable of performing its functions, and from which arises the icterus, or yellow skin, giving the well-known name to the disease. Other organs are involved but in them there is no special change characteristic of the malady.

Cases of yellow fever have been divided into three classes or varieties, the ephemeral, the grave, and the *siderante* or fulminantly fatal cases. The first class comprises cases exhibiting a slight toxic attack, ending in recovery in from two to three days or less. They are with difficulty diagnosed because of their resemblance to other infections of less gravity, and have been likened to a "slight cold." To this class belong the acclimatization fevers of the tropics. The second class embraces all grave cases of the type already described as presenting the characteristic symptoms. The third class are those rapidly fatal cases in which death ensues before the appearance of many of the characteristic symptoms, but in which acute fatty degeneration of the liver is always found, together with a most pronounced paralysis of the vasomotor constrictors, as evidenced in the marked visceral congestions and the intravisceral hemorrhages. These are the clinical and pathologic peculiarities which, with the natural peculiarity of the disease mentioned above, must be correlated with the phenomenal powers of the organisms said to be the cause of the disease.

THE CAUSE OF THE DISEASE.

Since the bacterial origin of yellow fever became a probability through the discoveries of Koch, Fränkel, Löffler, Eberth and others in the domain of the acute infections, there have been numerous organisms announced as its cause. In 1885 Domingo Freire, of Brazil, and Carmona y Valle, of Mexico, announced the discovery of the infecting organism, and in 1887 two announcements were made from Havana, by Finlay and Gibier, who isolated totally dissimilar organisms from the cadavers of yellow-fever patients.

The proofs advanced in support of these claims were not convincing, and during 1888-9 the question was thoroughly investigated by Dr. G. M. Sternberg, of the army medical corps, who was detailed to this duty through the Surgeon-General M. H. S. His report[1] was made in 1890, in which he stated, after careful and exhaustive research into the merits of these claims, that "among the micro-organisms encountered there is not one which, by its constant presence and special pathogenic power, can be shown to be the specific cause of the disease," and further, that with the most approved facilities at his command he had not been able to discover an organism in the blood of those ill from yellow fever, and expressed the decided opinion that the infectious germ, if a bacterium, would require for its detection other aids than those which he had employed. Incidentally, he suggested the possible etiologic value of his bacillus "X," isolated at Havana, since it had proved pathogenic to animals, with the production of the morbid anatomy found in men dead from the disease.

These observations of Sternberg made a profound impression on the professional mind of this country, and, without doubt, acted as a deterrent to further investigation. Indeed, I recall the personally stated opinion of one of the most distinguished bacteriologists of the day, that the disease, in view of that report, was scarcely one of bacterial origin, but that the cause might be a plasmodium, and he suggested freezing the bodies of victims of this disease, immediately after death, in order that section might disclose the pathologic conditions unchanged, and possibly also the infecting cause. When, in 1897, Giuseppe Sanarelli published the account of his work in yellow fever[2], there at once arose a murmur of surprise and incredulity, so fully had our minds been imbued with the value of the statements made by Sternberg in 1890. Dr. Sternberg himself at once assumed the defensive, and antagonized the statements of Sanarelli as casting reflections upon his own work, and he insisted upon the identity of his bacillus "X" and the bacillus icteroides, assumed by Sanarelli to the cause of yellow fever.

This was the state of affairs when the epidemic outbreak of the disease in Mississippi and Louisiana in the fall of '97 enabled the Surgeon-General of the Marine-Hospital Service to detail officers from his own corps to investigate its etiology. For this purpose he detailed P. A. Surgeon H. D. Geddings and myself to the isolation hospital of the city of New Orleans, and later, at the direction of the President, to Havana, Cuba.

The results of the work of that commission were embodied in a report[3] to the President through our Surgeon-General, dated July, 1899. The conclusions arrived at by the commission, as therein stated, are as follows:

1. That the micro-organism discovered by Prof. Giuseppe Sanarelli, of the University of Bologna, Italy, and by him named "bacillus icteroides," is the cause of yellow fever.
2. That yellow fever is naturally infectious to certain animals, the degree varying with the species; that in some of the rodents local infection is very quickly followed by blood infection, and that, while in dogs and rabbits there is no evidence of this subsequent invasion of the blood, monkeys react to the infection the same as man.
3. That infection takes place by way of the respiratory tract, the *primary colonization in this tract giving rise to the* earlier manifestations of the disease.
4. That in many cases of the disease, probably a majority, the primary infection or colonization in the lungs is followed by a "secondary infection," or a secondary colonization of this organism in the blood of the patient. This secondary infection may be complicated by the coinstantaneous passage of other organisms into the blood, or this complication may arise during the last hours of life.
5. There is no evidence to support the theory advanced by Professor Sanarelli that this disease is primarily a septicemia, inasmuch as cases do occur in which the bacillus icteroides can not be found in the blood, or organs in which it might be deposited therefrom.
6. That there exists no causal relationship between the bacillus "X" of Sternberg and this highly infectious disease; and that this bacillus, "X," is frequently found in the intestinal content of normal animals and of man, as well as in the urine and the bronchial secretion.
7. That, so far as your commission is aware, the bacillus icteroides has never been found in any body other than of one infected with yellow fever; and that whatever may be the cultural similarities between this and other micro-organisms, it is characterized by a specificity which is distinctive.
8. That the bacillus icteroides is very susceptible to the influences injurious to bacterial life, and that its ready control by the processes of disinfection, chemical and mechanical, is assured.
9. That the bacillus icteroides produces *in vitro* as well as *in vitam*, a toxin of the most marked potency; and that, from our present knowledge, there exists a reasonable possibility of the ultimate production of an antiserum more potent than that of Professor Sanarelli.

Does the bacillus icteroides, therefore, fulfil the demands of modern bacteriology; and does it offer an explanation of the clinical and natural history of yellow fever?

In the report of 1899 the Commission affirms the isolation of this bacillus from the blood of 13 of 14 patients in whom the disease was clearly recognized, that is to say, in whom the typical phenomena of the disease were present, or in 92.85 per cent.; in those dead from the disease it was isolated from the blood and organs in 85..7 per cent. Sanarelli had predicated his discovery of the cause of the fever upon the presence of the bacillus icteroides in about 55 per cent. of his cases living and dead[4].

Our cultures thus isolated were pure, and in no instance was a contaminated culture allowed to enter our computations. These cultures were each retained and are still in evidence. Introduced into animals susceptible to them, they each produced illness and death, the morbid anatomy being similar to that of man dead of the disease.

The organism is always [illegible]d i[illegible]se artifi[illegible] fections, as it is in the [illegible] in ma[illegible] tributed by the blood-c[illegible]

Moreover, the cl[illegible] an[illegible] troduced into animals [illegible] the ease, and furnish the pathologic changes peculiar to it. Sanarelli made use of the soluble toxins of the germ in an experiment carried out upon some nine imbeciles, otherwise healthy, who were under the care of a civic institution. Of these helpless ones nearly all reacted to the intravenous injections of the toxins; in a few there were evident signs of profound toxemia with symptoms of the disease; and in at least one case death must have ensued, the autopsic findings being those of yellow fever.

It would appear therefore that the bacillus icteroides would require no further proof of its pathogenicity; that its etiologic rôle is patent, since it has fulfilled the demands of bacteriology as laid down by Robert Koch.

After the Report of 1899, and just prior to its issue, there were a number of voices raised against the acceptance of the bacillus icteroides as the cause of yellow fever, mainly because of its close cultural relations to many other organisms known to be infectious in their nature[5]; and because of its behavior in the presence of changes of temperature[6].

Taking the experimental work of Sanarelli under consideration, during my work in Havana, I soon became convinced that he had fallen short of proving his position in regard to the etiology of the disease, and that the contention of Sternberg, in favor of the specific influence of bacillus "X," was a very valid one, since bacillus "X" was frequently isolated from the yellow-fever cadavers at our disposition, and at times from the living blood, and since this bacillus, and its toxin, acted upon animals in artificial infection in a manner strikingly like that of the bacillus icteroides. But Sternberg seemed to have lost faith in his organism, and withdrew it from further consideration before I had fully determined, by experimentation, its lack of specificity.

All that Sanarelli had proved in his mémoirs was the presence, in one-half of his cases, of an organism not before described in yellow fever; that it possessed powers pathogenic to animals by artificial infection; and that its toxins had proved toxic to man and animals, the lesions produced resembling those of yellow fever.

These facts were applicable to the peculiarly motile, highly pathogenic organism of the colon group, found freely by us in cases of the disease, and which corresponded perfectly to Sternberg's bac. "X." I was therefore compelled to attempt a differentiation of these bacilli. They were both pathogenic in animals; were they infective to them also? Introduced into their tissues, or into their blood, the reactions were very similar; they produced acute sepsis, with a profound influence upon the vasomotor constrictors, the paresis of which was, in all cases, followed by intense congestion of the organs, especially the cavernous ones, in which lack of support tended to free hemorrhages, notably the stomach—"black vomit"—and the intestines—"black stools." The parenchyma of the organs suffered from fatty degenerations, and necrosis. The onset of symptoms and death seemed to be in direct ratio to the amount of culture injected; there could scarcely be determined any cycle of disease in the case of either organism.

The differentiation of the organisms could only be accomplished by a series of experiments with susceptible animals naturally exposed to their infective influence, and to do this I exposed white mice, susceptible to most infections, to bacillus icteroides, and bacillus "X," in pure culture, as well as to a common colon organism, and that of Havelberg, who had announced its discovery some time before. The same conditions were maintained for all the mice thus exposed, the organism being placed in their grain. In a given time—8 to 10 days—all the mice, 19 of them, exposed to the bacillus icteroides became infected, and all died except one, which recovered after a severe illness. Of those exposed to bacillus "X" not one sickened or died. Those exposed to bacillus coli communis, and to the bacillus of Havelberg remained perfectly well.

From those infected by bacillus icteroides, it was determined that its incubation took place within five days, the usual incubative period of yellow fever; and that its cycle was that of the septic type of the disease in man, or of 5 to 8 days' continuation. The autopsies in these cases were typical of those in man. Of other animals, guinea-pigs resisted the natural infection, which was a surprise in view of the active reaction of this rodent to artificial infection. Rabbits reacted readily to natural infection, and in case of death gave characteristic autopsies. They developed the fact, however, that in them the blood does not become invaded; that is, that the colony of bacillus icteroides remains entirely local to the lung tissue, and sepsis does not take place. Dogs react readily also to the inhalation of the bacillus icteroides, and are invincible to the germ placed in their food, or in the small intestine beyond the acid stomach. In them also there is no secondary invasion of the blood, absolutely no sepsis, the necropsies presenting typical pathological appearances. Monkeys are susceptible to the inhalations of bacillus icteroides, and present a picture of suffering from symptoms of yellow fever very similar to that of man. In this animal the secondary invasion of the blood on the third day of the disease was demonstrated by careful planting of minute quantities of blood daily from the commencement of the symptoms. There were no deaths in monkeys; all of those infected recovered.

Altogether 44 animals were subjected to the infective influence of the bacillus icteroides, exhibited naturally. Of these 34 reacted, showing acute symptoms of disease, and 23 died, a mortality of 67.5 per cent. Recoveries took place among dogs, white mice, rabbits and monkeys, which demonstrates that the domestic animals may enter as a factor in an epidemic of the disease.

During my experimental work we were honored by a visit, at our laboratory in Havana, from Dr. Sternberg, who said to me, while passing through our animal room, that the strongest argument against the acceptance of the specificity of any one of the organisms advanced as the cause of yellow fever, was the fact that no one of them, during experiments in laboratory, had ever communicated this disease by natural infection to the animals of those laboratories; and he asserted that, whenever such infections should occur, the lesions being characteristic, and the organism recovered, he would accept that organism thus demonstrated as the cause of yellow fever, and such demonstration as the proof of its specificity.

In that same room, shortly afterward, I had nine cases of this disease occur among the animals, naturally caught, from the introduction into the atmosphere of the adjoining room, of the bacillus icteroides. Eight of these animals died; one recovered; from the necropsies I recovered the bacillus icteroides in pure culture from 50 per cent., almost as large a number of cases, and as large a percentage of isolations, as those used by Sanarelli in forming his assumption as to the value of bacillus icteroides in the etiology of the disease. These spontaneous infections occurred in dogs, mice, guinea-pigs and rabbits. The first infection, that of rabbit "S. S," was noticed on April 16, 1899, the only known exposure being that of the insufflation of dog "A," in the adjoining room, on April 7, with the bacillus icteroides in lycopodium powder. Granting 3 to 5 days as the incubating period of this bacillus, we have the disease lasting in this rabbit from 6 to 8 days, and ending in death on the seventeenth. In all these animals the disease was accompanied in the pregnant female by miscarriage, and in the normal female by flooding. Necropsies gave the characteristic morbid anatomy of yellow fever.

I therefore maintain that Sternberg, who has assumed the rôle of censor in this disease, should now be thoroughly convinced, since my work has been crowned with the results which he demanded, and since our commission has proved what Sanarelli did not, that the bacillus icteroides is constantly present in yellow fever, and is the cause of the disease. Sanarelli, in a recent issue of the *Medical News*,[7] has acknowledged the work of the American Commission, as a confirmation of his own, and he uses its results in formulating several conclusions which were not possible with the information derived from his experience alone.

But the work of that commission was far more important than this. It constitutes the only proof of the specificity of the bacillus icteroides, and without such demonstration the bacillus icteroides would have no better claim to our consideration as the cause of yellow fever than the organisms of Sternberg, Havelberg, or the commoner colons, that of an artificially pathogenic microbe.

The close cultural and biologic relationship which exists between bacillus icteroides and some others, infectious to animals, but not to man, as the micro-organism of American hog-cholera, the hog-cholera of Bavaria, that of the peripneumonia of calves, and that form of colon frequently isolated from the summer diarrhea of children, and also known in acute mucoenteritis epidemic among young pigs, has been noted for some years, and recently resulted in the assertion of one observer that the bacillus icteroides is of the hog-cholera group, and therefore of secondary importance if found in yellow fever in the septic stage. According to this observation the bacillus icteroides, when fed to our domestic pigs, gives rise to disease, and autopsy discloses the characteristic lesions of hog-cholera in their intestines.

This has not been my experience with the most virulent bacillus icteroides, for with a most perfect environment against possible contamination with the bacillus choleræ suis, I was unable to infect the hog in Havana with the icteroides, and later, under conditions equally free from suspicion of contamination with cholera suis, Geddings, upon a group of pigs and controls had a similar experience. *Bacillus icteroides in pure culture, and in an* environment free from bacillus choleræ suis, does not produce hog-cholera.

When the observations noted above were called to my attention they interested me greatly, not that the conclusion arrived at by the observer was thought to be correct, but the question at once arose in my mind of the possible mutations of these specific organisms with changing environment. Could it be possible for bacillus icteroides to give rise to yellow fever in man and to cholera in the hog? Could environment thus influence results? In so far these observations were of immense interest, but my experience and those of Geddings seemed to properly dispose of the question, and to determine that, however closely allied these organisms might be, the specificity of each one seemed an inherent quality, to be developed under certain environment, and that this quality is immutable. The same observer has questioned the power of bacillus icteroides, as known in the laboratories of the milder latitudes, to produce constant toxic results, advancing its failure to produce "fatty degeneration" of the liver, when injected under such conditions, as an argument against its specificity. As a matter of fact, the bacillus icteroides, like many other infective pathogens, exhibits at times a most marked quality of septicity, and in proportion as the organism is septic it loses its toxic quality, and consequently the manifestations of toxicity, the fatty liver and renal epithelium, become merged into a condition characteristic of sepsis; that is to say, these organs present then more the appearance of the changes of typhoid fever, with necroses of their parenchyma rather than fatty degeneration. The more acute the intoxication in this disease, typified in the siderant cases, the more typical the fatty degenerations, and the reverse is equally true. We therefore can not expect the same results from this bacillus under conditions which we know will cause its attenuation, as those which we encounter constantly under conditions most favorable to the development of its peculiar powers. An instance in man—cited in the report of the commission,[8] that of Private Patrick Smith, 8th Infantry U. S. Army, who died of yellow fever at Havana, after an illness of nine days—presented a condition of sepsis or blood invasion by the bacillus icteroides, the most marked that I have ever known. His necropsy revealed a chronic malarial cachexia, upon which a pronounced anemia had depended, and modified changes in the stomach, the intestine and the liver; these modified changes, partaking of the nature of typhoid sepsis, were accepted by some of the attending physicians as diagnostic of typhoid fever, but evidently there was lacking an adequate conception of the quality of septicity in the bacillus icteroides, from which had arisen these modified changes.

There has been made one other, and apparently the most formidable, argument against the bacillus icteroides as the cause of yellow fever. Novy has shown that the bacillus was not killed by exposure to temperatures below the zero mark, but that after such exposures it gave rise to a septic condition when injected into animals. He therefore concluded that the bacillus could have no etiologic relation with this disease, since epidemics of yellow fever have always subsided and disappeared upon the advent of a temperature of the frost-line, or about 40 Fahrenheit.

Having had no experience with this bacillus under other than tropic and semitropic conditions of temperature, I could make no comment at the time of his publication, but at this time I can say that his position was only apparently well taken, *for the bacillus icteroides*, although not killed by exposure to extreme cold, is most profoundly influenced by temperatures at and below 40 Fahrenheit. Having had the opportunity during the past fall and winter months to observe these conditions, I tested carefully the facts of the case. While specially engaged at the Institut Pasteur, in Paris, in the matter of the possible production of a serum, curative and preventive, in this disease, I made a series of vaccinations in animals with the "sérum anticoli," of M. Lesage, and with the "serum antipneumoniæ in calves," of M. Fehrenbach, against virulent cultures of the bacillus icteroides which I had taken with me. Details of these observations are in the addendum.

During the months of September and October these serums seemed to afford but little if any protection to the animals used, vaccinées and controls dying nearly at the same time. With the advent of the colder weather, however, it was noted that the serums were more potent and now protected the animals, but at the same time it was noticed that the controls, inoculated subcutaneously, did not succumb, the points of inoculation presenting nodules of accumulated leucocytes, something unusual in my experience with the germ in the tropics. At this time I determined to test the influence of cold and heat upon the infecting quality of the germ, since cold had so materially attenuated its pathogenicity; for this purpose I exposed white mice to its infective influence at different degrees of temperature. From the same group of mice, six were selected and two were placed in each of three cages. In each cage there was placed grain mixed with an equal quantity of the same culture of bacillus icteroides, originally obtained from the blood of Patrick Smith, which had always proved extremely virulent. One cage was then placed in an incubator temperature of 25 C., or 77 F. One other was placed in laboratory room temperature of 18 C., or about 65 F., and the remaining cage in the open air in an outbuilding, one side of which was entirely open. The temperature in Paris during this outdoor exposure averaged 5 C., or about 40 F., and at times was below zero, ice and snow being present, the record of temperature having been taken from the daily Paris edition of the New York *Herald*.

In the cage at 77 F., one mouse become infected and died on the ninth day, about the usual period in these animals; and one died on the thirteenth day, much beyond the usual period of eight to ten days. In the cage placed at 65 F., one mouse died on the fourteenth day, and the other on the eighteenth day after exposure, or in twice the usual period of time. Two other mice, placed in a fourth cage and exposed to this temperature of 65 F., died on the nineteenth day after their exposure. In the cage placed in out-of-door temperature, the mice at no time, under daily examinations, gave the slightest evidence of disease, and when last examined, two months after their exposure, were perfectly well. To summarize, mice are extremely sensitive to the infection, developing acute septicemia, with death in all cases of my own except one. The mice exposed at summer temperature, 77 F., died in very nearly the time noted in the tropics. Those at 65 F. sickened and died, but at periods of twice the usual length in these animals. The mice exposed at and below 40 F., the "frost-line," with us, did not become infected and remained well. Details are given below. Beside this attenuation of the germ, as shown when inoculated into animals, I found that the attenuated germ does not produce a potent toxin, even when grown at 37 C.; for mice and pigs resist large quantities of the soluble toxin produced when injected into their tissues.

The bacillus icteroides was thus shown to attenuate rapidly in the presence of cold, losing its toxic, septic and specific qualities.

During the prevalence of extreme cold in Washington last winter, my confrère, Geddings, remarked that animals inoculated subcutaneously, and intravenously, with the bacillus icteroides, in order to revive the organism by its passage through them, failed to succumb to it, and as it was desirable to employ the most virulent germ in his work, he was nonplussed. At this time, in a note from Paris, I stated my observation in regard to the influence of cold upon the bacillus icteroides, when, acting upon this information, he placed the inoculated animals at incubator temperatures, with the result that they succumbed and furnished the virulent organism desired. Nothing can be clearer than this demonstration, and it is in consonance with the many different results obtained by observers in different latitudes with this bacillus.

Reverting now to the natural history of yellow fever, I can most positively assert that the most striking of all of its natural phenomena, its endemic and epidemic cessation with the advent of cold, is thus readily explained by my discovery of this peculiar biological phenomenon while investigating the life history of the bacillus icteroides—the loss of its toxic, septic and specific qualities in the presence of a temperature below 5 C., or 40 F.

As to the clinical phenomenon of the "double paroxysm," separated by a more or less well marked interval, or "period of calm," I believe that this can be explained by the consideration of the mode of infection in yellow fever. It has long been conceded that the disease is air-borne and not water-borne; and because of the marked lesions of the liver and intestinal canal, the primary colony of the causative organism has been thought to be in the intestinal tract. Sanarelli but dimly realized the truth, and so did not profit by it. He assumed that the bacillus icteroides, entering the body, perhaps by way of the respiratory tract, in some occult manner reached the spleen, there to lay *perdu* until finally, late in the disease, it invaded the blood, producing with other organisms a "secondary sepsis."[9]

This is not true; my observations in the natural infections in animals limit the colony primarily to the respiratory tract. In dogs and rabbits it is totally limited to this tract, there being in them no invasion of the blood from the primary colony. In man and the monkey this secondary invasion takes place some time after the appearance of the symptoms of intoxication from the primary colony.

My observations, therefore, have convinced me that the bacillus icteroides is always first colonized at some portion of the respiratory tract; that the intoxication arising therefrom produces the early symptoms of the disease, the "first paroxysm" of the fever; that the injury sustained locally sooner or later permits the passage of the germ into the circulation, with those evidences of sepsis termed the "secondary paroxysm," which has been attributed by the earlier authors to an invasion, from the changed intestinal canal, of bacillus coli communis and other organisms; and that this secondary invasion is due to the development of an inherent quality in the bacillus icteroides, that of septicity.

The interval of calm is due to the profound impression of the commencement of this second intoxication, from the bacillus in the blood-stream, upon the nerve-centers. This depression, amounting to shock, sometimes ends in death, but if the patient rallies the temperature again rises and sepsis is shown by its chart. It is an uncertain quantity, this interval of calm between the two toxic periods, the first intoxication arising from the primary colony, the second from the lung colony plus the influence of the colony invading the blood; the first a pure toxemia, the second a septicemia.

Should death take place during this primary toxemia the body will be found to be sterile, Sanarelli agreeing with us that the *foudroyante* cases are sterile, excepting the local colony in the lungs, a fact which he did not realize.[10] This explanation correlates the three periods of the disease, the first intoxication lasting from 2 to 4 days, when, if septicity develops, the blood colony becomes a factor in the secondary, septic, or "third period," lasting from 3 to 5 days longer, the "period of calm" being of several hours' duration, or so slight as to barely merit the name. Thus, too, will be explained the three great varieties of yellow fever. Why should there be three varieties of this disease? Because this bacillus exhibits *par excellence* the dual qualities of toxicity and septicity; if the toxic property is alone developed after an infection, cases of the first and third variety are produced. That is to say, an intense toxemia, resulting in death, is the *siderante* or third type, while the multitude of benign or ephemeral cases, in which only a slight toxic result is noticed, constitutes the first variety. Between these are possibly the majority of cases of diagnosed yellow fever of the second variety, those giving the marked clinical peculiarities mentioned above, and in all there is the phenomenon of the "second paroxysm," "septic invasion," or "third stage" of this peculiar disease.

In regard to the want of correlation between the pulse and temperature I can quote Dr. Bernard E. Baker,[11] of Charleston, as noting this phenomenon as due to the soluble toxins of the bacillus icteroides.

In regard to the role which domestic animals and vermin encountered in domiciles may play in the retention of yellow fever in their systems after their infection on shipboard, or during the prevalence of the disease on land, and its convection by this means to new areas, which may then become infected, I can but introduce the ready susceptibility of mice, dogs and rats to the infecting influence of the bacillus icteroides, and the marked reactions obtained by Sanarelli in his artificial infections, or inoculations, in the horse, in cattle, and in the ass. Domestic animals are therefore susceptible, and if infected, many of them may recover. In all of these the disease, as in man, is accompanied by intravisceral hemorrhages, and, except in the dog, in which there is no blood invasion, the dejecta, as well as any bronchial secretion, may contain the germ, from which the disease may recur in the infection of a resident of the domicile. This mode of entrance from shipboard and from house to house bears the aspect of improbability, but the well-known instances of this fact in the history of plague demand for it respectful consideration in connection with yellow fever. I am reminded also of the fact that during my stay in New Orleans in '97 and '98, I heard well-founded rumors of the presence of some disease at that time frequent among cattle and horses, which resembled epizootic, and which was attributed to yellow fever. I have not had an opportunity of subjecting the greater animals, horses and cattle, to the bacillus icteroides, and can not state the facts as to their natural reaction to the germ.

In at least one variety of animal extremely reactive to artificial infection, guinea-pigs, I have not succeeded in inducing a natural infection, although there was one case of natural infection among our animals, and this may apply to horses and cattle.

The danger from infection through animals, especially the rodents, has been illustrated on many occasions of yellow-fever outbreak at points ashore, and adjacent to the nearest landing place of such rodents swimming from an infected ship. Moreover, the recrudescences of the fever, even after quite cold winters, could be attributed to an attenuated form of the disease lasting among these animals during the cold months, and the propagation of the germ in virulent form with the advent of hot weather.

Such convection and propagation of yellow fever deserves the careful consideration of sanitarians in an equal degree as in bubonic plague. I therefore submit to your intelligent body these facts—elicited in my efforts to clear away the obscurities surrounding this American disease, and although it was the fortune of my friend, Dr. Sanarelli, to first see the germ and name it, it has remained for America, the United States, to furnish the indubitable proofs of the value of the Italian discovery, and further to establish the scientific explanation of this disease which more than any other has occupied our attention. Incidentally also to the establshment of the fact that the infecting pathogens vary in their pathogenic results with the varying preponderance of their two great qualities of toxicity and septicity; and that a proper recognition of the latter will serve to elucidate a number of heretofore obscure problems incident to these infections.

ADDENDUM.

Experiments to test the value of certain serums, known to be protective against the specific organism from which they were produced, on the animals subjected to the influence of closely allied organisms.

The serums used were those termed "*anti-coli*," perfected by M. Lesage, of Paris, France, and the "anti-peripneumoniæ" of calves, perfected by M. Fehrenbach in the Institute Pasteur, and the organism the bacillus icteroides obtained from cases of yellow fever in Havana, Cuba.

Oct. 26—A full-grown guinea-pig was vaccinated with 2 c.c. serum *anti-coli*, and in 2 hours was given subcutaneously .25 c.c. of a 24-hour bouillon culture of bacilli icteroides. A control pig of the same size was given, under the skin, .25 c.c. of the same culture at the same time. Oct. 27, both pigs were ill. Oct. 30, the control was found dead. Oct. 31, the vaccinée was found dead. Autopsy gave hemorrhagic conditions and light colored livers, the blood contained the bacillus icteroides in large numbers.

Oct. 28, a large rabbit, 2000 grams, was given .25 c.c. of a bouillon culture of the bacillus icteroides, 72 hours old, in the ear vein, two hours after 4 c.c. of the *serum anti-coli* had been given in the other ear vein. A control of the same size was given .25 c.c. of the same culture by the ear vein. Oct. 30, both control and vaccinée were found dead.

Nov. 2, two large guinea-pigs were vaccinated on four successive days with 1 c.c. of *serum anti-coli*. On the fourth day they were also inoculated with .5 c.c. bouillon culture of the bacillus icteroides, 72 hours old. Two controls of the same weight were given only the .5 c.c. of the culture of bacillus icteroides.

Nov. 6, one vaccinée was dead, no autopsy. Nov. 7, the control was dead, no autopsy. Nov. 8, the other control was dead, no autopsy. Nov. 11, the other vaccinée was dead, the autopsy showing that it had been dead some time. There was an ulceration of the skin at the site of the inoculation 2 cm. long by 1 wide, the peritoneum being laid bare, and covered by a cheesy layer of pus, the margins well defined. The abdominal incision was carried carefully around the ulcer and the peritoneum turned back exposing its inner surface at the site of ulceration. There was no peritonitis, the intestines retaining their brilliance. The outline of the ulcer was seen as a raised border of infiltration on the inner surface, and from this raised border I carefully made cultures on slant agar-agar. The liver was much engorged, with fatty and necrotic areas. The spleen was slightly enlarged. The stomach contained 50 c.c. of fluid containing black flakes of blood; its walls were congested and extravasation had taken place. The kidneys were congested; the heart was full of fluid blood. From all organs cultures were made and in forty-eight hours were sterile; the culture made from the inner surface of the peritoneum gave the bacillus icteroides in pure state.

Conclusion—The *serum anti-coli* appears to be protective to guinea-pigs to some degree. The first of this group to succumb was one of the vaccinées, yet the other vaccinée lived almost twice as long as the témoins, and presented after death a sterile interior. From the fact that these animals are most susceptible to the septic influence of this bacillus, it is clear that the *serum anti-coli* induced a local reaction at the seat of inoculation in this pig, sufficient to limit the organism to the seat of the injection and to prevent sepsis. The animal died of a toxemia from the localized colony.

Nov. 2 I inoculated a 2000-gram rabbit with 1 c.c. bouillon culture bacillus icteroides, 72 hours old, in the ear vein, and fifteen minutes afterward injected through the opposite vein 18 c.c. of the *serum anti-coli.* It died in 52 hours. At the same time, in another rabbit of the same weight, there was injected the same quantity of the bacillus icteroides, the "normal serum" of the horse being used instead of the serum anti-coli. This rabbit died in 74 hours. A control rabbit was also inoculated with the same quantity of bacillus icteroides alone. The control died in 65 hours. No autopsies were made except in the case of the first that died, the vaccinée with *serum anti-coli,* from which was regained the bacillus in pure culture.

Conclusion—There was no increase of resisting power from the vaccinations with the *serum anti-coli,* since this animal died first, the vaccin exerting a depressing effect at first similar to that known in the use of the "serum antipesteuse" for vaccinations. The horse serum did not exhibit this toxic influence and prolonged the life of the animal somewhat.

A large rabbit was vaccinated intravenously Nov. 11, with 10 c.c. of *serum anti-peripneumoniæ,* obtained from the sheep from subcutaneous injections of the killed cultures of the bacillus which causes this disease in these animals. Nov. 12, the animal was quite sick from this vaccination. Nov. 13, it was better, and 1 c.c. of a 24-hour bouillon culture of the bacillus icteroides was placed in the opposite ear vein. Nov. 15, there was some reaction; the animal was quite sick. Nov. 16, there was some reaction, the animal was still sick. Nov. 18, there was considerable reaction, the animal was quite thin. Nov. 22, it was better and gaining in weight. Nov. 25, there was given 10 drops of a virulent culture of the bacillus icteroides intraperitoneally. Nov. 27, it ate well and was gaining in weight; there was no reaction. Dec. 4, it was given .5 c.c. of a bouillon culture of the bacillus icteroides subcutaneously. Dec. 6, there was no reaction, and the animal seemed well, Dec. 14, the animal was found dead.

Autopsy showed meager body and under the pelt at the seat of the subcutaneous injection there was a solid lymph plaque 2 cm. by 1.5, from the center of which bouillon tubes were planted. The tissues were dry; the peritoneal cavity and its contents were normal; the liver normal in appearance; the spleen was the same; the kidneys were congested; the heart was full of fluid blood; serosæ normal; stomach and intestine normal. Cultures were made from all organs. On the sixteenth the cultures from liver and spleen and from the lymph plaque gave pure growths of the bacillus icteroides.

Conclusion—The vaccin *serum anti-peripneumoniæ* protected this animal against a dose usually fatal in 36 hours, but this protection was evanescent and the animal succumbed finally to a general invasion from the subcutaneous injection of the germ, on December 4.

Nov. 24, a large rabbit was vaccinated with 10 c.c. *serum anti-peripneumoniæ* in the ear vein. During the day it was dull, but not ill. On Nov. 25, it weighed 1960 grams, and the control 1980 grams. They were now injected in the opposite ear vein with 1 c.c. of the bacillus icteroides in bouillon 72 hours old. Nov. 26, the control was dead; Nov. 27, the original was dead; no autopsies were made, as they died of intoxication.

Nov. 21, five fine guinea-pigs were vaccinated with *serum anti-coli,* 1 c.c. being given daily under the skin for 6 days, or in all 6 c.c. were given to each animal. One received 8 c.c. altogether.

Nov. 21, each of these vaccinées received .5 c.c. of a bouillon culture of bacillus icteroides 48 hours old, a control pig receiving the same dose under the skin. Nov. 22, one vaccinée was dead from a perforation of the peritoneum into the abdominal cavity. Nov. 24, several vaccinées showed considerable local swelling at the site of the inoculation, the one to receive the 8 c.c. presenting the largest lump. This was perforated and the serum from it planted. Nov. 27, all the pigs appeared well, there having so far resulted only a local reaction. The planting from the localized swelling had resulted in a good growth of the bacillus icteroides. Dec. 1, these local swellings in vaccinées and controls were diminishing. Again I planted tubes from the serum obtained by puncture from them all. Also prepared cover-slips which showed the bacilli free and engulfed by the leucocytes. The tubes gave in 24 hours pure and active cultures of the bacillus icteroides. On Dec. 6, the experiment was finished; all the animals were well; the swellings having disappeared. Conclusion. There seemed no doubt that the serum had protected these pigs, yet the control had reacted to the inoculation to the same extent as the vaccinées. This was puzzling, but it was finally attributed to the influence of the very cold weather which had prevailed during the experiment, upon the bacillus icteroides.

On Nov. 27 three large guinea-pigs were vaccinated with 1.5 c.c., of the *serum anti-coli* subcutaneously, and this was repeated daily for ten days, each pig receiving 1.5 c.c. of the serum. On Dec. 5 these pigs were inoculated with 1 c.c. bouillon culture of the bac. icteroides, 36 hours old. Two controls were also given the same quantity of the same culture subcutaneously. On Dec. 10 all were apparently well, the vaccinées had developed a distinct tumefaction at the seat of inoculations, tending to suppuration. The controls had large tumefactions, hard, with sharp borders, and no pus. All were eating well and were playful. On Dec. 12, the vaccinées were purulent, the témoins hard, and sharp bordered at the site of the inoculations. At this time having become convinced of the attenuation of the bacillus by the prevalent cold, I placed the cage containing all these pigs in the incubator at 25 C, and removed them to the room temperature the next morning. On the 14th, the cage was again placed in the high temperature incubator. On the 15th, the control was found dead, the others remained permanently well in the room temperature, the vaccinées were purulent and the control was ulcerated at the site of the inoculations; all recovered. From this and the other results it was determined that it was useless to experiment further with these serums in view of the very evident attenuation of the bacillus icteroides by the cold, and all further effort was in the direction of proving the effect of cold and heat on this germ.

On Dec. 12, to test the quality of the soluble toxins of the germ, a bouillon culture in a Fehrnbach flask, 14 days old, was filtered to 5 c.c., and 1 c.c. was given intraperitoneally to a 500-gram pig without appreciable result. The remainder was tested against the highly toxic blood-serum of the eel and without result. It was considered the result of the attenuation of the germ. On Jan. 1, a 25-gram mouse was given .25 c.c. of the freshly filtered culture under the skin, the culture being 6 weeks old. In 15 minutes, there being no reaction, I gave 1 c.c. with no result; in all the mouse received 2 c.c. within the hour and without result.

On Jan. 4, I gave the pig which had received the toxins on Dec. 12, 2 c.c. of a bouillon culture of the bacillus icteroides, intraperitoneally; this culture had been made in a moderately warm temperature, from the bacilli obtained from the spleen of a mouse dead from natural infection after 19 days. There was no reaction. Therefore, it was evident that the bacillus was so changed by the prevalent cold that there was not the normal production of toxins, or that they were much attenuated.

On Dec. 12, in each of two sterile cages there were placed two white mice, and given grain inoculated with bac. icteroides, obtained through an African ape from one Patrick Smith. One cage was placed in a temperature of 18 C., and the other in an incubator at 25 C. On Dec. 21, a mouse in the warm cage was very ill; its mate seemed thin and ill. On Dec. 23, one was dead and the other was quite ill. All in the cold cage seemed well. On Dec. 27, the remaining mouse in the hot cage was dead. Autopsies were made on both. In the first the pelt was yellowish on its inner surface; the liver was friable, not fatty to the eye; the spleen was normal. The cultures from the spleen gave pure colonies of the bac. icteroides. In the second mouse the pelt was yellow; the liver somewhat fatty, and the spleen enlarged—something unusual; from it the bacillus was regained in pure culture. On this date all the mice at 18 C. were apparently well, and one of them was transferred to the hot cage. Dec. 30, this mouse was dead. On the same day, the remaining mouse in the colder cage at 18 C. was dead. *Conclusion*—While the elevated temperature of 25 C., induced infection and death in about the time usual in these animals in the tropics—8 to 10 days—the reduced temperature of 18 C. induced this infection and death only after twice the usual period, or in about 19 days.

On Dec. 29, two fresh mice were placed in one of the infected cages and 1 c.c. of fresh culture bac. icteroides added to their grain, the cage placed in the open air of the animal barn, one side of which was entirely open, the temperature that day averaging 11 C.

Dec. 30, Temp. 8.5 C. (average)	47.3 F.
Dec. 31, Temp. 8.7 C. (average)	47.4 F.
Jan. 1, Temp. 7.2 C. (average)	45 F.
Jan. 2, Temp. 9.5 C. (average)	49 F.
Jan. 3, Temp. 9 C. (average)	47 F.
Jan. 4, Temp. 7 C. (average)	44 F.
Jan. 5, Temp. 5 C. (average)	40 F.
Jan. 6, Temp. 5 C. (average)	41 F.
Jan. 7, Temp. 4.5 C. (average)	40 F.
Jan. 8, Temp. 4.5 C. (average)	40 F.
Jan. 9, Temp. 4.5 C. (average)	
Jan. 10, Temp. 4.7 C. (average)	
Jan. 11, Temp. 5 C. (average)	
Jan. 12, Temp. 4 C. (average)	
Jan. 13, Temp. 2 C. (average)	
Jan. 14, Temp. 2 C. (average)	
Jan. 15, Temp. 2 C. (average)	
Jan. 16, Temp. 3 C. (average)	
Jan. 17, Temp. 8 C. (average)	
Jan. 18, Temp. 7 C. (average)	
Jan. 19, Temp. 7 C. (average)	
Jan. 20, Temp. 6.5 C. (average)	

These give a general average of about 4.5 C., or 40 F., which is the frost-line, to which the animals were exposed without the appearance of any symptom of infection. At the end of this time the animals were transferred to a clean cage and the infected one was sterilized, the animals remaining well two months after the change.

At the same time, from January 5, two other mice were exposed to bacillus icteroides under the same conditions of temperature in the same barn until the 20th, an average of about 4.5 C., or 40 F., without the appearance of any symptom of infection. They were transferred to the clean cage with the other mice and remained permanently well.

These experiences demonstrate that the extreme degrees of cold, below the line of frost and approaching zero C., are extremely hurtful to the bacillus icteroides, attenuating it to such an extent that it failed to infect white mice, the most susceptible of animals, during an exposure of 23 days. Moreover, these are the only exposures of these animals which failed to result in infection in from 3 to 5 days at high temperature, and a longer period as the temperature became reduced.

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DISCUSSION.

Dr. Simon Flexner, Philadelphia—I have been much interested in Dr. Wasdin's exhaustive paper. The high value of it is, of course, dear to everyone who has followed the literature of the subject since Sanarelli's discovery. Most bacteriologists believe that Sanarelli has done no more than point out the existence of a hitherto unknown pathogenic micro-organism in the bodies of a certain percentage of persons dead of yellow fever. The complete proof of its relation in a causative way to the disease is yet to be brought. This evidence, Dr. Wasdin thinks, is supplied by his experiments. He will, I am sure, permit a reasonable amount of scepticism even after his series of experiments. If we are to conclude that animals are subject to accidental infections with the bacillus icteroides, how are we to harmonize the absence of similar infections during the prevalence of the natural disease? Dr. Wasdin doubtless has established that the bacillus icteroides is capable of a high degree of potency; that its diminution in the air may lead to infection in animals; but I fail to see that by those experiments he has proved that he has produced yellow fever.

Dr. Gerry, Boston, Mass.—I should like to ask regarding the immunity of patients who have had yellow fever, if they really were immune. During the Cuban war we heard a great deal about the immune, and there seems to be a fixed idea that these people were really immune.

Dr. Eugene Wasdin, closing the discussion—The remarks of Dr. Flexner should carry much weight. It is certainly right to criticize, and I know of nothing that would be more productive of good. We feel convinced that further investigations will prove the value of the observations of Professor Sanarelli. In regard to the question of actual immunity from yellow fever I should like to have some one in the audience reply. I cannot do so. I can only state my own observations in the epidemics of yellow fever and what occurs in endemic centers. One attack does not protect absolutely against a second. I have seen several cases in which two attacks were enjoyed. There was black vomit freely ejected. The soldiers in Cuba supposed to be immune sometimes did suffer from a second attack. I regret that the time is so short that it will not permit me to go into details of the paper which would have been interesting and would satisfy some of the inquiring minds showing the amount of work condensed in the report of the commission made in 1899.

DEMONSTRATION OF HOME MILK MODIFIER.*

A. L. SHERMAN, M.D.

NEW YORK CITY.

The best food for an infant is its mother's milk; in its absence comes milk properly modified. Up to the present, this has been difficult of accomplishment. The Walker-Gordon Company has set a standard of what can be done in this direction, and now the Sheffield Farms Company, of New York, has opened a laboratory for the modification of milk. But such laboratories are situated in only a few of the larger cities, and their product is so expensive that their usefulness must necessarily be limited.

The modification of milk at home entails much elaborate calculation on the part of the physician; much patience and intelligence on the part of mother or nurse; methods so crude for the most part as to render the procedure difficult and inaccurate. However, although modified milk is acknowledged to be the best artificial food for an infant, it is comparatively little used.

The apparatus which I desire to demonstrate today is not intended to replace the laboratory, nor will it supply the needs of every infant. It will, however, if properly used, provide a food for any healthy infant for the entire first year of its life. It was suggested by Dr. Sidney V. Haas, of New York. This apparatus consists of a glass jar showing seven panels, with lip, capable of holding 16 ounces. One of [illegible] panels presents an ordinary ounce gra[illegible] panels [illegible] six different form[illegible] on of [illegible] each formula so arranged as to make it suitable for a certain period of the infant's growth, viz.:

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* [illegible] [illegible]ases
Fifty-first [illegible]
held at A[illegible]

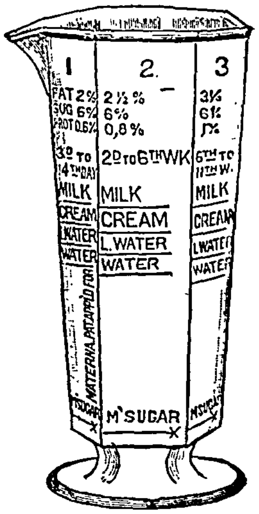
Formula	1	2	3	4	5		6
Fat, per cent.	2	2½	3	3	4		3½
Sugar, per cent.	6	6	6	8	7		3½
Proteids, per cent.	06	08	1	1½	2		2½
	3d to 14th day.	2d to 6th week.	6th to 11th week.	11th wk. to 5th month.	5th to 9th month.		9th to 12th month.
Milk, parts	1¼	1⅝	2	4½	6		
Cream, parts	1¼	1⅝	2	2	2	Milk, parts	9¾
Limewater, parts	1	1	¾	¾	¾	Cream, parts	1
Water, parts	12½	11¾	11¼	8¾	7¼	Barley gruel, parts	5¼
Milk sugar, parts	1	1	1	1	1¼	Granulated sugar, parts	¼

DIRECTIONS FOR FORMULAE 1-5.

The lines underneath the words indicate the points to which the various ingredients are to be filled in.

1. *Milk Sugar*—Introduce milk sugar to the line thus marked. Milk sugar is preferable, but where good milk sugar can not be obtained granulated sugar should be used, in just half the quantity. The small cross on the apparatus indicates the point for the latter emergency.

2. *Water*—Add boiled water (hot) to the water mark; stir until sugar is dissolved. If any particles are to be seen floating in the solution it should be filtered either through absorbent cotton, or a piece of clean muslin (two thicknesses).



3. *Limewater*—Ordinary limewater as bought in the drugstore should then be filled to the L. Water mark. (This is to overcome the acidity.)

4. *Cream*—This should be the ordinary cream, (16-20 per cent.) as obtained in bottled milk and as commonly delivered by the dairymen and should be filled to the cream mark. If cream is bought separately, the ordinary light cream should be used and never the very heavy cream.

5. *Milk*—Ordinary good cow's milk should be used and filled to the milk mark.

6. Stir the entire mixture.

7. The whole should then be poured into separate bottles and sterilized, or pasteurized if desired, and stoppered with cotton and placed immediately upon ice.

DIRECTIONS FOR FORMULA 6.

1. *Sugar*—In this formula granulated sugar should be used instead of milk sugar. Introduce the same into the vessel to the line thus marked.

2. *Barley-Gruel*—In this formula barley-gruel should be used instead of water and filled to the line thus marked. Barley-gruel should be prepared as follows: To one tablespoonful of pearl barley—after soaking several hours—add one pint of water, a pinch of salt, and boil for 5 or 6 hours, adding water as it boils away. Strain through muslin; or, one rounded tablespoonful of Robinson's barley flour; rub up with cold water, and add to one pint of boiling water; cook 15 minutes, stirring, and strain if lumpy.

3. *Cream*—Add the same as in other formulas.

4. *Milk*—Add the same as in other formulas.

5. *Stir*—Same as in other formulas.

6. *Sterilize*—Same as in other formulas.

The formulæ of the apparatus are calculated upon a 20 per cent. cream, and whole milk, *i. e.*, milk containing 4 per cent. of fat. Practically, however, the milk as obtained in bottles in the city will furnish the ingredients, the cream layer answering for the 20 per cent. cream, and the milk and cream left in the bottle shaken up together will supply the milk—a milk containing somewhat less than 4 per cent. of fat. Outside the cities where bottled milk is supplied, cream obtained in the usual way, by allowing it to rise in shallow vessels, and whole milk will answer.

Full directions and a schedule for the quantity of fat, the number of feedings, and the intervals between feedings accompany the apparatus.

SCHEDULE FOR FEEDING A HEALTHY CHILD DURING THE FIRST YEAR.

Formula	Age.	Number feedings in 24 hours.	Interval between feedings by day. hours.	No. night feedings 10 p.m. to 7 a.m.	Quantity for one feeding. oz.	Quantity for 42 hours' oz.
1	2 to 14 days.	10	2	2	1 to 2.5	10 to 25
2	2 to 5 weeks.	10	2	2	2 to 3.5	20 to 32
3	5 to 10 weeks	8	2.5	1	3 to 4.5	24 to 36
4	10 weeks to 4 months.	7	3	1	4 to 6	28 to 42
5	4 to 9 months	6	3	0	5 to 8	30 to 48
6	9 to 12 months.	5	3.5	0	7.5 to 9.5	37 to 48

A large child should receive the maximum quantity and sometimes even a little more; a small child should receive the smaller quantity and sometimes a little less. The hours for feeding should be kept conscientiously as indicated.

This apparatus is absolutely simple in its use. Nothing could be more accurate except the laboratory. It is capable of forming other percentages than those fixed by the combination of two of the formulæ. It is inexpensive. The modification is rapidly accomplished, and what is most important, it gives results. In those cases which have been under my observation in which this apparatus has been used there has been a steady gain in weight; the easy graduations by which the food is strengthened abbreviates entirely the gastrointestinal disturbance which is so apt to follow a change in an infant's diet.

If the following points are observed, the instrument can not fail: 1, fresh milk and cream of proper quality; 2, formula suitable to indvidual case; 3, quantity at each feeding suitable to individual case. In other words, this apparatus must be used as any drug is used. First the preparation is selected, then the proper dosage is prescribed.

Combined Wire Ligature and Vessel-Crusher.—Michaux announced a new method of hemostasis at the International Medical Congress which combines the advantages of a rapidly and easily applied ligature and of a vessel-crusher. The vessel is taken up on the female blade of the instrument, in which is fitted a U-shaped piece of silver wire. As the male blade closes on it, the ends of the wire are crossed and crushed to form a permanent ligature on the vessel, which is itself crushed at the same time. His experience with twelve major operations, including several amputations, has been extremely favorable.

THE REEFING OPERATION FOR MOVABLE KIDNEY.*

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It is well known that Hahn in 1881 first practiced nephrorrhaphy or nephropexy, since which time the operation has become a common one. The work done by Landau, Bruce Clark, Reidel, Tuffier, Guyon, Delvoie, Jaboulay and others, has reduced it to the class of procedures nearly free from risk in careful hands, and pretty sure to give relief in cases which require it. The mere presence of floating kidney is not an indication for operating. Some kidneys can be distinctly palpated which give no other symptoms; some which cause distress, are satisfactorily held by supporters. There has been much discussion as to what kind of supporter best retains a wandering kidney. A form of spring truss with a pneumatic pad always seemed to me mechanically more perfect than a belt or corset, inasmuch as the spring can push up under the costal arch in a way the belt can not imitate, just as the hand does in palpating and replacing the prolapsed organ.

Turning to operative treatment, we find also a somewhat unsatisfactory state of things in the frequency of relapses. It is true that a majority of cases of nephropexy remain cured or permanently benefited, and in so safe an operation a repetition is not a serious thing; but it would be still more satisfactory surgery if we could avoid all relapses and repetitions.

Hahn's first series of cases consisted of operations done by suturing the fatty capsule. A majority of these relapsed. He next included the fatty and the fibrous capsule in his stitches. In this method he had fair success. Out of 27 cases there were 15 cures, 4 improved, 7 relapsed, 1 died; total, 27.

Various operators—Riedel, Tuffier, Guyon, Nicoladoni—began to strip parts of fibrous capsule, after removing the fatty capsule, thus allowing the cortex of the kidney and the everted flaps of fibrous capsule to form a firmer union to the fascia lumborum. Suture of the parenchyma, in addition to free dissection of the fatty and fibrous capsule, is advocated by most recent writers, with the exception of a few who believe this endangers the kidney.

Jaboulay avoided sutures, and relied upon iodoform gauze packing to support the kidney in position until granulation tissue had formed around it to bind it in its bed. Senn advocates this method, and passes one loop of the gauze packing around the lower pole to insure its retention high up in the wound.

I have operated on a number of wandering kidneys, several of them double operations, and mostly by the older method of removing the posterior part of the fatty capsule and thus uncovering the fibrous capsule. This I formerly split into two flaps, which were everted and stitched to the muscles. Two long catgut stitches were then passed deeply through the kidney substance and out through the muscles. The muscles themselves were closed with buried sutures, and the deep sutures in the kidney substance tightened last of all. I am decidedly of the opinion that the stitches in the parenchyma cut through if drawn hard. In fact, I have seen this occur at the moment of tying.

I have usually sealed these wounds without drainage, and have had aseptic results; but in one instance a hematoma formed, which was slowly absorbed, and which was the cause of a partial relapse, probably by pushing the kidney forward and so preventing union with the posterior fascia.

On the whole, nephropexy by this method gives fair satisfaction. No dangerous symptoms have ever followed the operation in my experience, and it has always proved easy of execution. About 25 per cent. of relapses certainly followed, but in no case has the kidney been as movable as before, nor the pain as severe. This corresponds with the statistics collected by Delvoie, Keen, Langenbuch, and others, as follows:

	Cases.	Improved.	Cures.	Relapses.	Deaths.
Frank found in	39	. . . . . .	21	18	0
Keen found in.	59	. . . . . .	39	20	0
Sulzer found in.	93	10	56(?)	31(?)	3
Devoie found in.	215	30	135	45	5

Classifying according to type of operation, we have as follows:

	Cured.	Improved.	Relapsed or failed.	Died.
Suture fatty capsule.	4	3	7	0
Suture fibrous capsule.	10	3	9	2
Suture parenchyma.	75	14	19	2
Suture parenchyma capsule stripped.	9	0	1	0
Special methods.	37	10	9	1
	135	30	45	5

Before describing the new method, a few words by way of explanation may be in place. A fact that has been emphasized to me many times in operating on the kidney is that it is normally a very movable organ. As seen in the operation field, it is never at rest, but rises and falls with respiration, making a descent of about one inch with each excursion of the diaphragm. What happens now when we suture it tightly to the muscles? This rhythmic motion the organ shares with the other viscera below the diaphragm. That is, the liver, spleen, stomach and transverse colon, and kidneys rise and fall *en bloc*, or in unison. It is perfectly clear that, as the right kidney lies with its upper pole in a hollow made for it in the lower surface of the liver, a collision must take place between these two organs if the kidney is fixed artificially. In other words, the liver must thump or strike against the motionless kidney with each inspiration. Furthermore, as to the anterior ligaments of the kidney, the attachments to the other viscera are less firm, but they all have to do with holding the kidney in place or out of place. In case of enteroptosis and gastroptosis, I believe the kidney is dragged down, and its prolapse is entirely secondary. If we could palpate all the other viscera as certainly as the kidney, we should think less of the latter as a cause of the digestive trouble. Many patients with dilated stomach and enteroptosis refer all their pain and gastralgia to the misplaced kidney, which they can so easily feel with the hand, and think that if it were only kept in place the abdominal troubles would be gone. They seek an operation, and may be disappointed wholly or in part, because the sutured kidney can not bear the strain of supporting all the viscera. It must pull down under their dragging weight to some extent. Some nervous women would be better off if they never had been told that they had a "floating kidney." I should consider such a condition curable only by a combined operation on the viscera and kidney, or kidneys. The slighter respiratory excursion which the organ makes, is different only in degree from that of movable kidney. It would seem that when we endea [illegible] cure th [illegible] ation, we ought to le [illegible] d de [illegible] to do this is a difficult mechanical problem. The fascia near the vertebral column and twelfth rib is very rigid and strong, as are the deep muscles, like the quadratus lumborum.

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*Read before the Chicago Surgical Society, April, 1900.

I now wish to call your attention to the fatty capsule, or capsula fibro-adiposa, and Gerota's capsule in front of it. We have seen that this structure was used by the first operators, like Hahn, in 1881, to hold the sutures in nephrorrhaphy. As already stated, this proved too weak a tissue, and out of 14 cases reported, 7, or 50 per cent., failed or relapsed. This was doubtless due to the inability of this layer to hold sutures properly. Nevertheless, I have found that I could always seize the fatty capsule of a prolapsed kidney, pull the organ up by it, and hold it firmly in the wound as long as I needed. This came about in the following manner: I have usually split this fatty envelope longitudinally, and thus formed of it two flaps, each of which I cut off, so as to bare the posterior surface. Now, in doing this I was each time more impressed with the complete control these flaps gave of the kidney. With these held by an assistant, the organ can be pulled firmly into the wound and held there much better than by pressure of the hand in front. I have several times had these flaps laid outward on the skin on each side, temporarily, to fix the organ, while I was splitting and sewing the fibrous capsule, as in Fig. 1.

It was also noticed that the respiratory movement continued however tightly the fatty sac was drawn, which was in direct contrast with what is seen when the fibrous capsule is sewn. The fibroadipose capsule contains in fact a reticule of fibers, forming a complete pouch for the kidney, in which it has free room to move. It reminds me of nothing so much as the dartos of the scrotum, having considerable strength of an elastic kind, yet allowing a free gliding movement of its contents.

Now, while the fatty, fibrous kidney capsule is not strong enough to hold stitches well, it occurred to me that it was strong enough to hold far more than the weight of the kidney, if its whole sac-like character could be utilized. This I have tried to do by an operation of gathering it together posterior to the kidney, and pulling it out through the lips of the wound. In dissecting this layer off the posterior wall, as in the older operations, I had often noticed that this fatty capsule was voluminous, and that the kidney was drawn fully up only when the former was well outside. It was therefore evident that it must be shortened, but still the problem remained of how to attach such a frail structure in which stitches could get no firm hold. It seemed that all attempts to use it were likely to end, as Hahn's original efforts had, in frequent relapses. I found, however, that by one method I could support it in the wound without tearing it. This was by gently holding it in the incision while the latter was closed with deep and superficial stitches. Thus the lips of the wound closed on it with a uniform pressure, and did not tend to cut it as sutures alone would do.

After perfecting this method as well as I could, I found that the *atmosphère cellulo-grassieuse,* as this layer is called by the French writers, has been used by Doyen, in 1898-99, in what he calls his hammock operation, the fatty capsule being shortened, and slung by stitches to the lumbar fascia and sometimes the twelfth rib. This seems like a return to Hahn's unsuccessful method, but the plan of suspension by *shortening the* whole sac contains the germ of a good idea.

I explained this method at the last annual meeting of the St. Joseph County Medical Society, and was interested to hear a description by Dr. F. C. Ferguson, of Indianapolis, of a method practiced by him, in which he draws all the coverings of the kidney, including the peritoneum, back by stitches to the lumbar muscles. To do this he opens the abdomen. In some respects this is ideal, but I should fear the loops of suture might in certain cases compress the ureter or vessels.

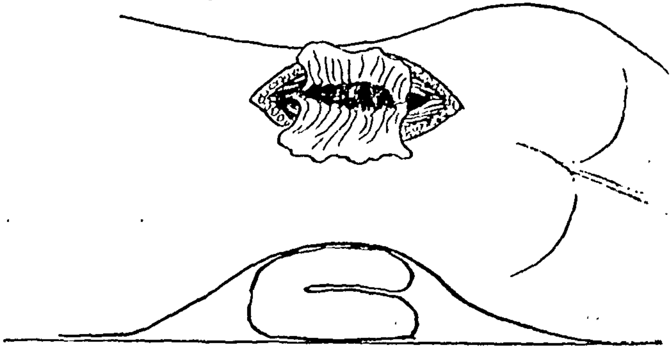

Fig. 1.—Cellular capsule split and drawn out, lifting kidney.

Dr. Harvey Reed has advocated a method also involving an anterior incision, in which the hand is introduced into the peritoneal cavity, the kidney grasped and held back in its lumbar pocket, while sutures are passed into its substance through the posterior skin and muscle, without a posterior incision. This seems to me to endanger the vessels and ureter.

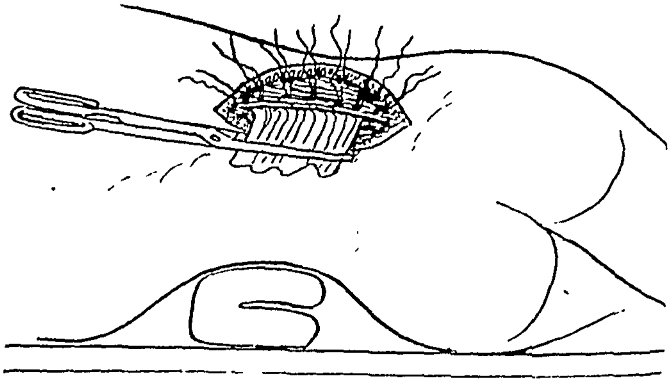

Fig. 2.—Cellular capsule clamped between muscles by mattress suture.

Dr. L. H. Dunning, of Indianapolis, was a pioneer in nephrorrhaphy, being one of the first in America to take up the work of Hahn. I am of the impression that he has made use of the fatty capsule in some of his cases. I have this statement from him:

> The article to which I referred in the discussion of your paper may be found in The Journal, Vols. IV and V, 1885. I have also found the original draft of my paper, read before the International Congress, but it does not touch any new facts concerning nephrorrhaphy.

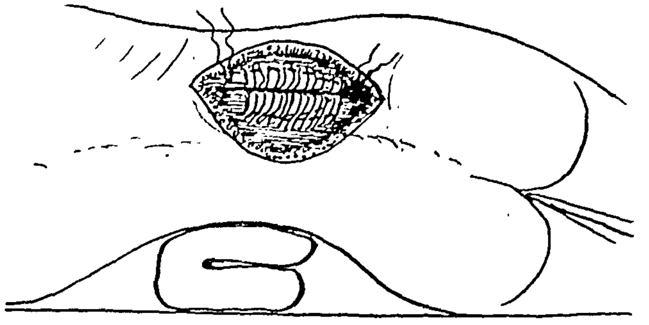

Fig. 3.—Flaps everted and sewn to muscles before closing skin.

> Upon a few occasions I used a method somewhat similar to the one you indicated, but it is not so likely to be successful

as yours, for the reason that I only pulled up the lower portion of the fatty envelope. In your operation, as I understand it, you propose to pull out between the edges of the wound a considerable portion of the cellulo-adipose envelope, and include this in the sutures that inclose the incision.

That method seems to me to be feasible, and I shall try it. I wish you success in the working out of the solution of this perplexing question. Truly yours, L. H. Dunning.

TECHNIQUE OF THE REEFING OPERATION.

1. Incision at outer borders of quadratus from twelfth rib to ilium. This is carried through the lumbar fascia and along edge of quadratus to loose fat about kidney.

2. The muscles are retracted and the fatty capsule split the whole length of the kidney. The two flaps thus formed are pulled outside, and the kidney thus held well up and back. Care should be taken that the lower pouch of this capsule is pulled high up. In cases of great prolapse, the fatty capsule will be found drawn into a long tube, like a stocking. It will surprise one who has not tried it to see how nicely it can be reefed by drawing it out of the skin opening, and how well the kidney obeys every pull we make in the upward and backward direction. It is expected that Gerota's capsule is included. Five or six inches of this fatty sac can sometimes be drawn up. The kidney will now be seen to lie snugly in the lumbar wound, and yet to rise and fall in respiration. Probably it will be an inch or more below its normal place. This is an advantage, because it removes from it the pressure of the liver, and enables us to hold the entire organ and not merely its lower pole. I have had cases of relapse by older methods in which the lower pole was still anchored by my stitches, while the upper end tilted forward and could be felt below the costal arch in front.

3. The broad segments of the fatty capsule, and its enclosing, or Gerota's, fascia already drawn outside are now held by the hands of an assistant or by long forceps, while the opening in the muscular wall is closed by a line of mattress stitches. These transfix the fatty capsule. The real support is obtained, however, not by the stitches, which would cut out, but by compression between the muscles.

4. The flaps should now be cut off an inch or two outside the muscle, everted and stitched down, after which the skin can be closed in any simple manner. In Dr. Steele's case we brought the fatty capsule out through the skin also, and cut off the surplus. These wounds seem to belong to a class in which primary healing is easily obtained.

REPORT OF OPERATIONS.

Case 1.—M. F., aged 27, multipara. First noticed dragging pain and soreness two years previous. The right kidney descended so far as to touch bladder, and was easily palpated in any position. No enteroptosis.

Operation, with oblique incision. Kidney drawn easily into wound and held by broad ligament forceps clamped on fatty capsule. The latter was drawn out and upward four or five inches outside skin. In this case I had not thought of the mattress stitches, and I used interrupted catgut of large size, closing the muscle, and compressing the fatty capsule into a roll which had a tendency to keep the muscles apart. The skin was closed over with buried catgut and a collodion seal on wound.

Primary union occurred, and thirteen months after operation there was no return.

Case 2.—Miss G., aged 24. Some history of dyspepsia, and dilated stomach. Had for seven or eight years pain and dragging in right side. The movable kidney was discovered by her physician, who advised a supporter. This gave only partial relief.

Operation, with vertical incision from ribs to pelvis. Quadratus and psoas formed inner boundary of muscular cut. Capsule drawn freely up, held with two broad ligament forceps, and a line of mattress stitches made to grip it while closing the muscle. Skin closed over the whole, and a small drain inserted. After the skin wound was closed, a flat tumor formed by the excess of fatty capsule could be felt and seen outside the muscle.

This patient had no recurrence after six months.

Case 3.—Miss S., aged 32. For nine years had had pain in walking, some gastric disturbance, neurasthenic symptoms, and a palpable tumor in right side, which descended as far as the anterior superior spine of the ilium. When held in position by the hand, patient felt much relief, and also in lying down. No bandage had been found which did not seem to increase the trouble by getting above the kidney and pushing it down.

Operation, by vertical incision from ribs to pelvis. Quadratus and psoas as usual formed inner boundary of the muscular cut. Adipose capsule was drawn out, after dividing it lengthwise, and held by two long clamps. The kidney came well into the wound. Eight mattress stitches of chromicized formalin gut were used to close the muscles, and this seemed to hold the capsule very smoothly. The fatty flaps were then turned outward, and sewn to the muscles in opposite directions, after which the skin was closed with buried sutures, and a small bundle of silkworm gut left in the lower angle.

Primary union occurred here, and no recurrence had appeared after five months.

Case 4.—Miss H., a patient of Dr. D. A. K. Steele, aged 25. Has had a right wandering kidney for several years, causing local pain, malaise and nervous symptoms.

Operation, at Chicago Hospital, by Dr. Steele, assisted by myself. The oblique incision was used, and the kidney easily found. The fatty envelope was divided longitudinally. The two flaps thus formed seemed to have considerable strength, and all present noticed that the organ could be drawn up and held quite snugly against the posterior opening, while at the same time its respiratory movement did not cease. Catgut sutures were used, and the capsule drawn outside both muscles and skin.

No recurrence has taken place up to the present time.

Case 5.—Mrs. M. V., multipara, aged 42. After a miscarriage two years ago had pain or sense of weight in right side. Dr. Eisendrath diagnosed wandering kidney.

Operation, at Post-Graduate School, by Dr. Eisendrath and myself. Vertical incision as before. Fatty capsule drawn out and held by two forceps, while sutures were placed mattress form, fixing it between muscles. The fatty capsule seemed a little more frail and tore easier than in my other cases. The skin was closed and a small drain placed in lower angle.

A relapse occurred in this case very early, whether from some imperfect carrying-out of the technique or some inherent fault of the method, I should be glad to know. At a recent examination I found both kidneys markedly prolapsed, but the left more than the right.

Case 6.—Miss A. R., aged 15. Had been under [illegible] son's care for gastric dyspepsia and [illegible] and on account of persistent pain in right side. [illegible] showed wandering kidney, with an [illegible] of pelvis.

Operation, with vertical incision [illegible] capsule. The latter, in two flaps, was drawn [illegible] the mattress sutures of catgut [illegible] capsule were then everted and [illegible] catgut. After closing the [illegible] form a slight tumor.

No relapse has appeared in [illegible] operation.

Case 7.—Miss G., aged [illegible] pepsia for several years. [illegible] sides. The duration [illegible] tacks of severe left [illegible] calculi size of peas

Dr. Fütterer advised exploration of left kidney, and nephropexy of both. In a previous double nephrorrhaphy on one of Dr. Fütterer's patients I had used the old method, but I had now acquired enough confidence in the new operation to use it in every case.

Operation, on right kidney with vertical incision. On left side the oblique cut, one inch below the twelfth rib, was used, so as to be prepared for removing stones, and possibly following ureter. The kidney was explored digitally, and by needling, and as no signs of pyelitis or calculus were discovered, the reefing operation was done on both sides. The fatty cellular capsule was reflected upon the muscular flaps, while the latter were closed by mattress sutures of catgut. The reflected capsule was then sutured down on each side. The wounds were drained with iodoform gauze, extending to the lower pole of each kidney. Primary union was obtained, and the patient sat up on the eleventh day.

This case is too recent to have much value in the statistics. So far, the result has been perfect.

CONCLUSIONS.

1. The adipo-cellular capsule and Gerota's capsule are strong enough to hold up a wandering kidney.
2. Stitches can not hold this tissue, but pressure between flaps may do so.
3. Nephropexy will often fail in wandering kidney brought about by gastroptosis and enteroptosis.
4. The new method—reefing operation—has been tested from one to thirteen months, and has shown fair results.
5. The interposed fascia has not caused failure of union in any case.

ACUTE GRAVES' DISEASE.*

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ANN ARBOR, MICH.

The diseases described in text-books under the heading, "Diseases of the ductless glands," are usually chronic in their course. There are interesting exceptions to this rule. Fussell and Taylor have collected from literature 56 cases of acute leukemia in which death occurred in from two to three months. Graves' disease is still more strikingly chronic in its course. The number of fatal cases of acute Graves' disease reported by American authors is remarkably small. The only fatal cases which I have been able to find are those of J. H. Lloyd[1] and F. P. Henry.[2] A few cases have been reported in which the symptoms of Graves' disease came on suddenly, lasted for a few days, and disappeared with recovery. In French, and especially in German, literature, the reported cases are more numerous, but still rare. Cases of this interesting form of the disease have been reported by the following authors, besides those referred to above: Trousseau,[3] Peter,[4] Roth,[5] Foerster,[6] Gräfe,[7] Freudenberger,[8] Mackenzie,[9] Solbrig,[10] Eger,[11] Reymond,[12] Mueller,[13] Hirschlaff,[14] Sutcliff,[15] Moore,[16] Kinnicutt,[17] and Patterson.[18] The case which I wish to add to this list of acute Graves' disease died while under my care at the University Hospital.

Mrs. P., aged 33, married, born in Germany, but a resident of Michigan for many years, occupation, housewife. Her father died at 75; had articular rheumatism for thirty years previous to his death. Cause of mother's death not known. One paternal uncle had rheumatism. The patient was well as a child, and had none of the ordinary diseases of childhood. Menstruation began at 18, was regular, normal in amount, and without pain until three years ago, when her periods, which lasted three days, were followed by severe pains in the front of the thighs, and a white discharge from the uterus, which lasted three days. Menstruation ceased entirely one year ago, with disappearance of the pains in the thighs. Patient was married at 22, and one year afterward was confined at 7 months, child being still-born. Overwork was thought to be the cause of this premature labor. A second child was born two years later and lived 12 months. A third child is 8 years old and in good health. Articular rheumatism began in one finger sixteen months ago, and gradually involved nearly all the joints of the extremities. The thyroid gland began to enlarge seven months ago, nervous symptoms soon developing. The patient's husband states that severe nervous symptoms and palpitation of the heart developed less than four months previous to the patient's admission to the hospital, immediately following a severe shock. The patient's only son was sick at this time with appendicitis. An operation was planned and the mother was almost prostrated with grief and anxiety. The symptoms appeared immediately after this shock. During the past two months the patient has been too weak to work. The bowels have moved four or five times daily and urine was voided with difficulty. There is constant thirst. The patient has grown rapidly weaker, emaciated, more nervous, and the diarrhea has continued.

Status Præsens.—Patient has the appearance of a very sick person; body is emaciated, though face is fairly full. She is extremely nervous and so restless that examination is made with difficulty. Mind is clear. Height a trifle below average; present weight 74 pounds, four months ago, 140 pounds. Frame slender, musculature very small and soft, panniculus very thin; skin of a light brown color, especially on face, very moist, patient sweating profusely; mucous membranes a trifle pale, tongue thick, with a fairly thick grayish coat on dorsum, teeth poor, no edema at ankles, joints not deformed. The thyroid gland is enlarged in both lobes and isthmus. The tumor extends from the clavicle to the angles of the jaw. The right lobe is the larger. There is marked pulsation in all of the veins and arteries of the gland, and over the gland. On palpation a fine thrill is felt. A loud "bruit de diable" is heard over the gland. Circumference of neck is 37.5 cm. There is no exophthalmos. Von Græfe's sign is absent. Mœbius' sign is positive, as the eye can not converge for any length of time. On extending the hands a fine tremor is noticed. Thorax is rather small, of fair length, is deep and narrow; epigastric angle of fair size. The sternum projects and the angle of Louis is prominent. Expansion is small. Percussion of lungs is negative. On auscultation over right apex expiration is louder than inspiration. Over left apex inspiration is louder than expiration. Over remainder of front there is a weak, somewhat sharpened, vesicular murmur.

The apex-beat of the heart is in the fifth intercostal space, nipple line, and is heaving. On percussion, dulness begins on fourth rib and extends to left, to nipple line, is not enlarged to right. On the first sound at the apex there is heard a harsh, fairly loud murmur, which is well transmitted to the left axilla and is heard over the entire front of the chest. The second pulmonary sound is louder than second aortic, but is not particularly accentuated. Liver and spleen are not enlarged.

The lower border of the stomach is just above the umbilicus. Succussion sounds are present.

The patient was admitted to hospital April 11, 1899, with a temperature of 100, pulse 140, and respiration 30. She was very much exhausted and nervous, partially as the result of a long trip. Following our usual custom in the treatment of Graves' disease, the patient was put to bed and placed upon a light diet, because of an irritable condition of the stomach. An ice bag was applied over the heart, and strychnia, gr. 1/30 t. i. d. were given for three days, then thyroid extract was given in a tentative way, gr. v, t. i. d., and dilute hydrochloric acid after meals. These were continued for seven days, when all medicines were stopped, as the patient was vomiting and had a severe diarrhea. At this time she was taking broths, egg nog, milk and malted milk, but on attempting to swallow anything, vomited and retched fearfully, producing great exhaustion. On the twelfth day she took 23 oz. of malted milk, did not vomit, but had a number of watery stools; temperature was about 100 and pulse 122. On the thirteenth day she refused most of her nourishment, vomited once, and had a large number of soft stools. On the fourteenth day strychnia was resumed and patient retained most of her food, which consisted of broth and malted milk. On the seventeenth day, on account of diarrhea, bismuth, paregoric and chalk mixture were given, and peptonized milk was given as food. On the eighteenth day she refused most of her food and vomited frequently. Rectal feeding was now begun. Nineteenth day was a very hard one; most of the nutrient enemata were expelled, stools very numerous and watery, and she vomited frequently. Temperature varied from 99 to 101 and pulse ranged from 134 to 150. Patient was very weak and restless. On the twentieth day the patient was very restless; nutrient enemata were given, but most of them were expelled. At times she was so restless that the temperature could not be taken; morphia hypodermically and bromids were given per rectum; temperature rose to 104.5, pulse 160. Patient became wildly delirious—could not be controlled—and raved continuously. On the twenty-first day she grew more wildly delirious and could scarcely be kept in bed; temperature rose to 106.2, pulse to 200; at 10 a.m. temperature reached 107 and it was impossible to take the pulse. Patient died at 12 m.

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*Read before the Detroit Medical and Library Association, May 14, 1900.

Unfortunately, I was unable to secure an autopsy. The most salient points in the case are the cessation of menstruation one year before death, the appearance of the goiter seven months before death, the advent three months later of palpitation of the heart, tachycardia and nervousness, immediately after a profound emotional shock, the presence of diarrhea and vomiting, the great loss of weight—nearly seventy pounds in four months—the high pulse-rate and the high temperature toward the close of the illness, the presence of delirium and the complete absence of any evidences of exophthalmos.

From an etiologic standpoint the question of shock is an important one. A large number of cases have been reported in which the signs of exophthalmic goiter developed immediately after some profound emotional disturbance. Case 1, of Mueller's[14] series, was abruptly told of the death of Kaiser Wilhelm, and thought reference was made to her sister, who at the time was very sick with typhoid fever. She immediately became so weak that she took to bed, palpitation of the heart came on, loss of appetite and vomiting, exophthalmos and struma.

Trousseau[3] relates a case in which three cardinal symptoms of the disease appeared in a single night in a woman who had been greatly affected by the loss of her father. Kinnicutt, in the "American System of Practical Medicine," speaks of the following case in his practice: A woman, at sight of her husband covered with blood, was seized suddenly with violent palpitation and tremor, followed speedily by enlargement of the thyroid and protrusion of the eyes. Reymond[13] reports a case in which acute symptoms suddenly appeared following anxiety in a woman of 45, death occurring on the fourteenth day.

Sansom—"Allbutt's System," Vol. ii—reports a case developing suddenly after fright, but ending in recovery. Moore—cited by Ord and McKenzie in Vol. iv of "Allbutt's System"—reports a case occurring in a young girl after reading of her brother's death, in which the symptoms lasted only two days.

Some of the signs and symptoms of this disease have also developed following operations, severe attacks of pain, the administration of an overdose of thryoid extract and the section of the cervical sympathetic. In Mueller's series, Case 2, five years before the beginning of the disease, had a sudden blow upon the nape of the neck. In the third case, gall-stone colic preceded the attack many years. In Case 4 there was a long attack of fever of an unknown kind, following which the patient never entirely recovered.

Patterson[10] reports a case in a girl of 15; tonsillotomy was performed. A good deal of agitation and tremor of the hands were noted at the time of the operation. In the course of three weeks enlargement of the thyroid, tachycardia and exophthalmos developed. The tremor also extended to the legs.

If the histories of many of the reported cases of this disease had been worked out carefully, it is my belief that in the majority of them signs, though indistinct, of a pre-existing incomplete Graves' disease could have been obtained. The fright, grief or worry is simply an accidental factor in the disease, which has accentuated the signs already present and hastened the development of others. The entire human family would be suffering from Graves' disease if fright, shock and worry were sufficient causes. There is at this time either an unstable condition of the emotional nervous system, or the disease is present in its incipient stage. In my own case menstruation had ceased five months before the goiter was noticed, and eight months before the severe shock. Articular rheumatism, involving most of the joints, preceded the development of nervousness and tachycardia by a year.

In Reymond's case there was continuous tremor for *more than a year preceding the acute attack.* In Patterson's, the patient had been troubled with tremor of the hands for eighteen months, which had occasionally made writing difficult. Kinnicutt reports a similar case, in which, before there was any evidence of palpitation, a trembling of the hands had interfered seriously with his occupation of bookkeeping. Enlargement of the thyroid occurred six weeks later. In these cases the tremor was an evidence of the existing Graves' disease. Hirschlaff's case had palpitation of the heart and dyspnea at time of menstruation for nine years previous to the acute development of the disease. In 1895, after a fright, convulsions and unconsciousness supervened; similar attacks occurred every month, preceded by paresthesia of hands and feet. Excitement and anger brought on the attacks.

In the majority of acute fatal cases of this disease there is a history of uncontrollable vomiting and diarrhea, which soon exhausts the patient. In Sutcliff's case this feature was very prominent. Vomiting persisted in spite of all treatment till death. For three weeks no food was taken, even the sight of food bringing on distressing vomiting.

J. H. Lloyd's patient was thought to be suffering with cholera morbus. When examined in a good light the cardinal signs of Graves' disease were found. Vomiting continued, prostration became marked, pulse rose to 170, and was tumultuous; patient died at end of third day of illness. Post-mortem was performed by Dr. Dock, showing heart, lungs, kidneys and suprarenal capsules practically negative.

Hirschlaff's case, toward the end, had diarrhea. In Mueller's four cases symptoms on the part of the abdomen ushered in the scene in three cases; there was gastralgia, vomiting and diarrhea, the diarrhea being especially persistent in the fi[illegible] I[illegible]ree of his cases; the voice acquired a [illegible]ng ton[illegible]less and soft. Several sh[illegible] in slurring of the speech.

Psychical condition.—All four of Mueller's cases showed great restlessness, irritability and excitability. The great motor restlessness continued until death. The first three cases had delirium at the periods of exacerbation. Case 4 had feelings of anxiety, associated with frightful dreams and hallucinations. My case showed wild delirium toward the close. Henry's case was markedly delirious. Hirschlaff's case showed great restlessness, amounting almost to choreic movements. A number of hysteric attacks occurred following trifling annoyances. Very rapid tremor was present in all four of Mueller's cases. It was also marked in Hirschlaff's case and my own. Patterson's, Reymond's and Kinnicutt's cases all showed fine tremors. Charcot first called attention to the tremor as a symptom in Graves' disease. Marie thinks it presents characteristics which distinguish it from all other forms of tremor. The to-and-fro movements of Graves' disease occur at a rate of 8 to $9\frac{1}{2}$ per second, whereas the tremors of paralysis agitans, general paresis, alcoholism and general senility are much slower, about 4 to 5 per second, and more regular. The importance of the presence of tremor should be emphasized because of the assistance it gives us in diagnosing incomplete and incipient forms of Graves' disease.

The number of post-mortems on acute cases of Graves' disease is small. Mueller makes the following reports in the cases examined by him:

Case 1 died three and a half months after beginning of the disease. Numerous small fresh hemorrhages were found in the medulla oblongata, especially in the neighborhood of the vagus nucleus, and in the upper olive body; otherwise the cerebral peduncle, pons, oblongata and spinal cord were normal. The vagus trunk showed considerable degeneration on both sides, in slight degree also the recurrent vagus and the heart nerves. The sympathetic appeared entirely normal. Near the enlarged hyperplastic thyroid were a number of lymphatic glands the size of cherry-stones, showing fresh and old hemorrhages throughout their substance.

Case 2 died in a little over two months from the beginning of disease. Struma, slight heart hypertrophy and numerous swollen lymph-glands in the neck were present. The spinal cord, medulla, pons and cerebral peduncles were normal. On the floor of the fourth ventricle were rather numerous, fresh hemorrhages, arranged especially in and about the vagus nucleus. The sympathetic was *normal.*

Case 3 died in less than six weeks from beginning of disease, and showed nothing abnormal either in brain or medulla, except a moderate degree of edema. The sympathetic was normal. Besides the old cholelithiasis there was struma and brown hypertrophy of the heart muscle.

Case 4 did not come to the post-mortem table.

Case 5 was a subacute one, dying after ten months of illness. Post-mortem showed the sixth and eighth dorsal vertebræ carious. There were several small fresh hemorrhages in the fourth ventricle; no other changes in the brain. Vagus, recurrens, cardiac nerves and cervical sympathetic without demonstrable changes. The dorsal sympathetic in the neighborhood of caries was interrupted. The splanchnic was normal; thyroid hyperplasia; no hemorrhages; numerous swollen cervical lymph-glands were hyperplastic and studded with fresh and old hemorrhages. There was brown atrophy of the heart. Seeligmueller (Lehrbuch der Nervenkrankheiten) reports a similar case of Basedow's with spondylitis, which recovered. Peter reports a case which died after an illness of eight days, in which both lower cervical ganglia were enlarged, the ganglion cells small and in part granular, and the nerve elements diminished. The upper middle cervical ganglia were normal.

In Hirschlaff's case post-mortem showed adenoma of the thyroid, hyperplasia of the thymus, tonsils, spleen and of the adenoid tissue in the stomach and intestines, hypertrophy and dilatation of the heart.

The only pathologic lesion which is found constantly present in these cases of acute Graves' disease is the diseased thyroid gland, which is usually hyperplastic. Supporters of the theory that disease of the sympathetic nervous system is the cause of Graves' disease point to the fact that Beveridge, Smith, Knight, Virchow, Biermer, Moore, Hopfengærtner and Johnson have all reported cases of Graves' disease in which changes were found in the sympathetic.

Analogous changes in the sympathetic, however, have been found in other diseases, such as traumatic neuroses, Bright's disease, tabes and diabetes. On the other hand, the supporters of this theory must remember that in numerous cases of Graves' disease the sympathetic has been found to be normal. Pathologic changes in the brain and cord are not sufficiently constant to give them any importance from an etiologic standpoint.

The striking difference between acute and chronic cases lies not in the pathologic findings, but in the greater intensity of the symptoms, especially those on the part of the gastro-intestinal tract, evidencing a more profound intoxication with perverted or excessive normal thyroid secretion.

Treatment is of no avail. Digitalis, strychnia, bromids, morphia and thyroid extract have all been used, and with indifferent results.

The use of thyroid extract in Graves' disease, acute and chronic, is condemned by many as irrational. If one accepts the theory that Graves' disease is the result of an excessive secretion of the thyroid gland, it certainly would be illogical to prescribe thyroid extract. It would be just as sensible to give hydrochloric acid in Reichman's disease and expect an improvement in the symptoms. *However, upon the ground that this disease* is the result of an absorption of an excessive amount of perverted thyroid secretion it is good treatment to give these patients thyroid extract. By supplying artificially a normal secretion, it is possible for a diseased organ to recuperate and regain its normal function. In diseases of the stomach with subacidity we prescribe hydrochloric acid, and in many cases, the stomach regains its power to secrete a normal gastric juice. In the treatment of the disease we must guard against drawing too favorable conclusions regarding the efficacy of therapeutics. The disease is prone to improve without or in spite of treatment. On the other hand, exacerbations may occur during treatment, and one is led to think that the medication is responsible for the relapse, when it is without blame. It can not be foretold whether thyroid extract will do a patient good or harm, but many patients with the chronic type of the disease have improved under its use, and it seems a justifiable clinical experiment to try this drug in the treatment of Graves' disease.

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MEDICAL ORGANIZATION AND THE REORGANIZED NEW YORK STATE MEDICAL ASSOCIATION.

The pernicious conditions existing in the medical profession, regarding its material interests, is a subject which calls for the consideration and earnest thought on the part of all the members of that profession who are interested in its welfare. These conditions are many and varied, and too well known to need repeating here. In every instance they are the result of a lack of organized effort, on the part of the profession itself, to remove them.

Organization in the medical profession of the United States is at present best defined as "chaotic." While there are nearly fifty states and territories, and as many state and territorial societies, there are also nearly as many plans on which these are organized. A few are based on the county society, membership in this carrying membership in the state body; a few others, recognizing the value of the county organizations, encourage them in a half-hearted manner; a majority of the state societies absolutely ignore the local society.

The basis for the complete organization of the profession must be the county or local society; this must be regarded as an axiom. Another assertion must be accepted as a truth before a complete and permanent organization may be looked for: The objects of the organization must include the material, as well as the scientific, welfare of the individual members. The average physician is only human, and he asks for a material return for the money and energy he has invested. This must come directly to him as an individual, or indirectly as a member of a profession which he sees materially benefited as a result of his investment. While the scientific and educational advantages of the ordinary medical society are alone sufficient to satisfy the few, the many are not so satisfied; they want something more. The state medical society which attempts to completely organize the physicians in its territory without recognizing these fundamental principles will fail in the future as it has failed in the past.

Holding these views, we can but endorse the plan on which the New York State Medical Association is being reorganized, for it is evident that the committee on reorganization has recognized the necessity of this broader plan in formulating its charter and organic law. According to these, the reorganized New York State Medical Association is to be the central body in which the sixty-one county associations, when organized, will unite, and through which the combined county associations will work. Its fundamental principle is fair and equal representation, leaving no chance for the formation of cliques, or a possibility of its management getting into the hands of a few. The Association has just issued a pamphlet which contains the new charter and proposed laws, together with the proposed by-laws for district and county associations, from which we obtain the following information:

The subordinate bodies of the State Association are the "district branches" and the county associations. Of the former there are five—First or Northern; Second or Eastern; Third or Central; Fourth or Western, and Fifth or Southern district branches, each including from ten to fourteen counties.

The membership is composed of resident, non-resident, corresponding and honorary members, all but the first being non-residents of the State. The active voting members are called "Fellows" and are delegates elected by the county associations annually in the proportion of one for each ten active resident members. These, as do all the officers, serve one year. They meet with the Council annually on the day preceding the regular annual meeting of the State Association, conduct the general business of the Association and elect officers.

The "Council" consists of the fifteen officers of the Association, i. e., president, vice-president, five ex-officio vice-presidents—these being the presidents of the branches—secretary, treasurer and the chairmen of the six standing committees. It is the active working body, the executive board of the Association, and during the intervals of the meetings of the larger body, manages its interests.

Members are not elected to the State Association directly, but obtain this membership through that of a district branch, or county association. To become a member of a district branch the applicant must be a resident of the district included in that branch, and of a county in which there is no affiliated association. Residents of those counties in which there is a county association must obtain their membership in both the district branch and in the state organization through membership in their own county association. When the members of any district branch, residing in one county, are ten in number they must organize a county association, and thereafter control memberships from that county. This, in brief, is the plan, which means that to become a member of the State Association the applicant must be a member in good standing of his local association, if there is one, and, if not, of the district branch, membership in the county carrying with it membership in the branch and state associations without further fee. It means the building up of the local associations. Each county and branch association elects its own officers, controls its o [illegible] an [illegible] s its ow [illegible] laws, but these must be i [illegible] v [illegible] organ [illegible] laws of the State Asso [illegible] th [illegible] there are many counties in which there is no local association, the district associations are necessary, but whether this will be true when all the counties are organized time will tell. It is presumed that each of the district associations will now work energetically to organize an association in each county, so that, before long, it is hoped we may look for an association in every county in the State.

Two important provisions are incorporated in the charter and by-laws which have reference to what we have designated above as the "material interest" of the individual member. The first of these provides for the establishment of a death-benefit fund. Section 4 of charter is as follows:

> The New York State Medical Association may, in its discretion, establish a death-benefit fund, and may include in its by-laws an article governing the establishment and distribution of the said death-benefit fund.

Whether a life-insurance department is advisable or not we are not prepared to say. We understand that a suggestion has been made that, instead of this, provision be made for creating a fund to be used for the superannuated among the members, in other words, provision for old age rather than for the dependents of a deceased member. In any event the creation of some such fund would have a good effect in two ways: the direct good for which the fund is created, and the indirect in keeping those once affiliated in active membership. One having an interest in such a fund would naturally be more liable to retain his membership than if there were no such interest to hold him.

Another excellent provision is that covered by sections 5 and 6 of Article II of the by-laws.

> It shall be the duty of the Council to employ an attorney and counselor-at-law, resident in the city of New York, who shall appear in all legal matters for and on behalf of the New York State Medical Association. It shall be the duty of the Council to receive and consider all applications of members for assistance in defense of suits for alleged malpractice or other matters affecting their professional status, and all complaints of violations of the laws of medical practice and of public health; and the Council shall without delay, and with the advice of its attorney, examine the case and determine the expediency of defending such action or prosecuting the alleged violators. If the Council's decision be in the affirmative, then the New York State Medical Association shall furnish the funds and legal services necessary for the conduct of such defense or prosecution.

These provisions are of the greatest importance and will result in more material benefit to the profession than any other that could have been incorporated in the organic law. The great trouble in every state is that the medical laws have not been enforced; and those who have had experience in trying to enforce them know that this will never be done by the politically appointed or elected prosecutors. It must be done, if at all, by physicians; and as there is not a state in which they are thoroughly organized, there is not a state in which the medical laws are enforced. Our friends in Kentucky have come nearer keeping quacks out of their state than has been done in any other, and this is because a few have been well supported in every way by the many. Hence, we believe the provision made for this work in New York is destined to result in good in many ways.

The provision made for the assistance of members in the defense of suits for alleged malpractice, when justly brought, is such an excellent one that it needs only to be mentioned to be commended. The resisting of suits for alleged malpractice is as much the duty of the profession as a whole as it is that of the individual directly affected; for the success of one of these suits, either by compromise or otherwise, is liable to bring on a dozen others.

The reorganization of all state societies on a uniform basis has been proposed, but what the ideal plan would be which each state would be invited to adopt is a question which requires earnest and careful consideration. The above outlined plan, which the New York State Medical Association at its meeting this month will consider—for it has not yet been adopted by that body as a whole—has many excellent features; whether it can be made more ideal is for the future to decide.

HOSPITAL ORGANIZATION.

The method of organization of the medical staffs of our hospitals is a matter of great importance. Naturally the same plan, even though quite ideal, is not applicable to all hospitals, because their scope and nature differ greatly. In the case of those of large or medium size, whether supported by some branch of the government or by endowment, the general conditions are usually quite similar, and it would seem natural that the medical staffs were appointed and organized according to some well-considered plan which had gradually met with more or less general approval. At present, this is far from being the case. In most of our city and country hospitals the positions on the medical staffs are prostituted in the interests of practical politics. There is no reasonable certainty in the tenure of office; there is no esprit de corps in the staffs so constituted, and no successful attempt can be made to organize them into harmoniously working bodies, because of the total absence of high motive and of proper training in most of the appointees. Such hospitals are usually scientifically sterile. The limitations of the authority of the attending physicians and surgeons and of the non-medical officials are illy defined and not infrequently lead to occurrences of whose disgraceful character the least said the better. Naturally, there is but little discipline among the internes in such hospitals. Fortunately, there are institutions in which better systems prevail, and it seems that the conditions in general are slowly improving in most of the large cities.

In the hospitals maintained by endowment or by religious bodies the conditious are, on the whole, somewhat better, certainly more refined, yet in these is seen a rather low standard of organization that leaves much to be desired. Speaking generally, the attending clinicians in both these groups of hospitals give their services free to the non-paying patients. In some hospitals this means that an attending clinician may take free charge of 50 to 75 patients for shorter or longer periods of time each year; in others, year after year. In hospitals admitting private and pay patients the opportunities for "making money" are often most inviting, especially in surgical work. Hence the fact that in some institutions the number of surgical patients greatly exceeds that of medical. The chief shortcoming of such hospitals is the lack—often absolute—of systematic scientific clinical work of general value. The spirit of commercialism prevails.

In order to improve on the present conditions certain broad general policies should be introduced into hospital management. In the first place, the appointment of hospital staffs should be taken out of politics. This needs no further explanation. The hospitals, especially the larger, should be subdivided into distinct, definite, and, within certain limits, autonomous departments or services, each with its own chief or head, assistant, or assistants, residents, and internes. In a hospital large enough to maintain two surgical departments, each should be independent of the other. Common operating-rooms, common assistants, etc., destroy individuality and hinder the development of the department as a whole. The service should be continuous and practically permanent. The fragmentary service of three months a year, or the like, is incompatible with good work. Apply the principle to other lines of activity and its absurdity is at once apparent. The chief of service should be the best available man for the position, the attainment of which under the conditions briefly outlined here would constitute in the end one of the highest honors a medical man in this country could hope to reach. The proper mode of selection could be worked out easily. The time of service of the assistants, residents, and internes should be arranged with two points in view: the greatest good of the department, and the thorough training of young men. Lastly, the principle that a servant is worthy his hire, is as applicable to hospital work of a responsible character as to any other employment. The custom that physicians should give their time and their services to the extent now prevalent here without the principle of compensation being recognized directly is not only without parallel, but directly detrimental to clinical work of a high degree. Here, we meet with the awkward complication of two spheres of work, one public or semi-public, the other distinctly private. The adjustment will work itself out with time if the principle at stake, and we believe it is a correct one, is recognized, as is the case already in a few institutions in this country and quite universally elsewhere. The affiliation of many hospitals with medical schools and with universities greatly simplifies the problem. Finally, in hospitals so organized may we hope that scientific clinical and pathological study and investigation will be carried on to an extent that speedily will increase manifold the value of the services of the hospital and that in a much larger and more broadly humanitarian sense than under the present haphazard methods of regime.

SOME SOURCES OF ERROR IN SKIAGRAPHS.

Every method of physical exploration can yield information only with regard to physical conditions, but for the establishment of the anatomic and physiologic significance of which other data will be required. It should hardly be necessary to add that the observations must themselves be in the first place above suspicion. Here, as in the application of all methods of precision, are demanded the two essentials of correct perception and equally logical interpretation, and both of these bespeak a certain foreknowledge. While the large possibilities for diagnostic usefulness of the X-rays were early appreciated, it soon became recognized that the results obtained were susceptible of varied interpretations, in accordance with the skill and the experience of the observer and the opportunities for the development of what, for want of a more convenient term, may be designated "artefacts."

Some of these sources of error are pointed out in a communication presented to the Society of Medical Jurisprudence, of New York, by Dr. Carl Beck,[1] who speaks from an extensive experience. To reduce the likelihood of error to a minimum, it should always be borne in mind that the X-rays produce only shadow-pictures, for the correct interpretation of which a thorough knowledge of the anatomic relations of the parts is absolutely essential. The density of the shadows produced will necessarily vary with the position in which the picture is taken, and, for purposes of control, the observation should be made in at least two directions. For purposes of precise localization it may be necessary to make several observations and to employ special devices. One must always first assure himself that the shadows found are not due to the presence of normal structures, even though these be at times unusual, before deciding them of abnormal origin. It is, therefore, often useful to compare opposite sides of the body under like conditions. As has been indicated, the possibility of anomalous or exceptional conditions, in themselves not abnormal, should always be borne in mind. Then, the incompleteness of ossification in the young, and the bone-changes attending rachitis, for instance, may give rise to appearances in skiagraphs simulating the results of traumatic lesions. It is further appropriately pointed out that the apparent deformity disclosed by the skiagraph is not a trustworthy index of the degree of disability. The point ever to be remembered in the employment of any and all methods of physical diagnosis is that [illegible] results yielded are in themselves [illegible] lu- [illegible] their significance will depend on the interpretation given them, and this will be governed by a full knowledge of all the possibilities in the case.

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[1] Medical Record, August 25, p.

AMBIDEXTERITY.

Dr. E. Noble Smith[1] makes a plea for the education of children in the use of their left hands interchangeably with their right, instead of as at present discouraging it. The inconvenience of having to use the left hand for all manipulations when the right happens to be temporarily disabled has been experienced by many of us and we can therefore the more readily appreciate his argument. It certainly would be an advantage if one could be equally dexterous with both hands, and the fact that some favored individuals are naturally thus endowed makes it seem possible that by education all could be made ambidextrous. We are usually inclined to believe with Sam Patch "that one man can do a thing as well as another;" why, therefore, should we all not use our left and right hands alike if we so wish? The almost universal prevalence of right-handedness, however, must have some physiologic basis, and this being the case it may not be so easy to correct the tendency. It is probable that the selection of the right or left hand for special training is a matter of custom and choice; whole nations are, like the Benjaminites of Scripture, said to be predominantly left-handed, but it is none the less the rule that one or the other hand is more dextrous and more used. Man is not a symmetrical being, his viscera are distributed according to his needs, and this fact has been used in theorizing as to the cause of the phenomenon, as noted by Smith. He does not, however, refer to the elaborate speculations of De Fleury and others on the effects of the unequal blood-supply of the hemispheres of the brain, which would appear as likely as anything else to have an influence.

A still more striking indication, as it might seem to some, pointing to the physiologic reasonableness of one-handedness, is the fact that the speech centers are almost invariably located on one side of the brain. There is, as regards the faculties of expression, a close relation between the hand and the organs of speech, and it is in this relation particularly that the inequality of the two sides is most manifested. We can learn with comparative ease to use the left hand for many purposes nearly or quite as well as the right, but it is a much more difficult task to accustom it to write, that is, at least for most of us. The fact also that children who happen to be originally left-handed are easily taught to use their right hands, but then lose their facility with the left—become right-handed instead of ambidextrous—would seem to point to an inability of the average brain to utilize both hemispheres simultaneously to the same extent. Adults who educate themselves out of left-handedness into right-handedness generally do this imperfectly, their right hands can only be approximately perfect in certain specialized movements; they rarely, if ever, become perfectly ambidextrous. Even ambidextrous—so-called—individuals have a preference, which must be based on some greater ease of use, for one hand or the other. All these facts, together with the additional one that in movements of the lower animals there is a certain degree of unilateral predominance, indicate that one-sided function is natural and due possibly to an inherent incapacity of the average brain to work both sides alike. There are still other facts in connection with aphasia that are suggestive in this connection, but they need not be considered here.

The question remains, if unilateral function is the normal condition and bilateral equivalence the rare exception, might not the attempt to educate the average individual into ambidexterity result in a lower grade of functional performance? In other words, is it in the best interests of the child to attempt to make it ambidextrous? According to Noble Smith, this is already being attempted by the school authorities of Philadelphia and it will be of interest to note their success.

DIED AT HIS POST.

The death of Dr. Jesse W. Lazear, noted elsewhere, is another sacrifice on the altar of professional duty. Dr. Lazear's work in the investigation of yellow fever was such as demanded a man of his ability and qualifications, and he fearlessly devoted himself to it, rendering services that are spoken of in the most appreciative way by his superior, the head of the army medical department. If any man ever gives his life for others it is the physician who dies the victim of disease contracted at the post of duty. It is to the honor of our profession that such cases are not rare.

THE TEXAS MEDICAL LAW.

The medical examining board for the Texas judicial district including Houston, recently resigned in a body for good and sufficient reasons. While the law provides for such a board to examine diplomas and undiplomated candidates for the practice of medicine, recent judicial decisions have declared that the diplomas of any one legally incorporated institution for medical education are as valid as those of any other. Thus, the most fraudulent concern is placed on the same level as the best, and, as a defense of the public against quacks, the law is nullified. No self-respecting physician would care to hold an office the function of which is to license the diploma-holders from the Armstrong succession of chartered frauds. Hence, the board very properly resigned. The members of the other Texas boards would do well, if indeed they have not already done so, to follow their example. The Texas State Medical Association has elaborated a bill for a medical practice act corresponding in the main with those of other states that require an examination as a preliminary to the issuance of a license. It is to be hoped that it may soon become a law, and it will if the members of the medical profession in Texas do their duty and exercise the influence they possess.

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[1] British Medical Journal, September 1.

THE RAW MEAT FAD.

Twenty-three men and women of Chicago, where Dowie throve and Schweinfurth sprung, have organized themselves into a "Raw Food Society" and propose to start a propaganda. The basal idea of this organization is best explained by the resolutions adopted, in which they state that it is their firm conviction that life will be lengthened, pestilence and contagious disease wiped out of existence, and men will become *giants physically, intellectually and morally* by abstinence from cooked food. It was never intended, said their president, "that man should eat food that has been cooked, that he should take into his system dead cells to replace the worn-out cells cast off from the body." Just how these reformers are to get along with the ordinary conventionalities of civilization in very many ways is hard to understand; perhaps, they will consistently throw civilization overboard and get along without it. At any rate, civilized man who can not do without cooks will very probably have to contrive to exist with them for some time to come. No one will object to such extremists taking their food raw if they want to, but if they make further steps toward the simian golden age and begin to do without clothes they may have to be interfered with.

MALODOROUS THERAPEUTICS.

It is not often that a sensorially very obtrusive public nuisance is defended on sanitary grounds by medical men, but such appears to be sometimes the case, if we are to trust the newspaper reports of a recent occurrence in New York. The health officers of a village on Long Island, in support of an application for an injunction by interested parties against a dumping-ground for the city's stable refuse, described it as a menace to health, with an odor permeating the atmosphere for miles around, affecting even the slumbers of the inhabitants and ineradicably abiding in their draperies and habitations. Against this strenuous denunciation the offending contractors furnished the affidavits of two presumably prominent New York physicians. One of these, said to be a specialist in nose and throat diseases, averred, it is alleged, that he had "carefully observed the effects of the exhalations and gases arising from fermenting stable refuse upon the respiratory organs and deemed them conducive to health," and that he had advised his patients to expose themselves as much as possible to such odors and gases. A member of the offending firm was perhaps one of these patients, as he claimed that he had entered the business because he had been thus advised and his health had profited. Of course, he may have only followed lay advice, for it is well known that the notion of the salutary therapeutic effects of animal ordure in one form or another is widespread in a certain class, but we have heretofore considered it only as a very vulgar superstition. Now, that it has the sanction of a learned lecturer it is to be hoped that the laboratory of his school will soon send out some published results of researches on the subject.

QUACKERY AND THE POLITICIANS.

The osteopathy propaganda, failing in any scientific endorsements that would be impressive to the public, is sending out the alleged opinions of politicians in regard to their pseudoscience. One of the latest sent out is a selection of utterances purporting to come from eleven governors and ex-governors of several states in favor of osteopathy. One of these from the governor of Missouri is superfluous; his deeds speak louder than words and he has amply demonstrated his mental idiosyncrasies. Another, however, purports to come from Governor Tanner, of Illinois, whose record *is somewhat different. He is made to say:* "There is no doubt in my mind that osteopathy will reach and cure many chronic troubles that medicine would have little or no effect upon." This may be sarcasm, though as such it requires a little second thought to see it, and it is not taken as such by the osteopaths. Altogether, considering his previous sensible action in this matter, we will accept it as irony. One or two others of the statements quoted, if not quite non-committal, at least do not commit their makers very strongly as partisans, and may have been merely the complaisant answers of lay politicians to requests that they did not care to directly refuse. Some, however, "slop over," to use a vulgarism, like Governors McMillan and Taylor, of Tennessee, who consider osteopathy as the epoch-making discovery of the century, and ex-Governor Altgeld, of Illinois, who poses as one relieved by osteopathy while drugs and prescriptions "were as ineffectual as empty words." It is not surprising that out of the hundreds of living governors and ex-governors of states any set of quacks or system of quackery should find a short dozen of endorsers, and, of course, they are utilized to the utmost. It would not be a bad plan if the profession would keep in mind the politicians who endorse quackery; if this were done they might not be so ready to give it their good word.

THE SERUM TREATMENT OF TUBERCULOSIS.

The paper of Mircoli, abstracted elsewhere in this issue,[1] seems worthy of at least passing comment. The striking results with so large a series of cases, nearly 3000, from the use of the Maragliano antitoxin in the different forms of tuberculosis are better shown in his tabulated statements than in our abbreviated report. Over 14 per cent. of the cures added to nearly 50 per cent. of "improved" is a good showing. When we analyze the figures further and find that the disease progressed during the treatment in only about 18 per cent., and that the disease in the cases rated as improved tends to be permanently checked, it is still better. Even in the advanced cases with cavities already formed, only in about one-third was the disease still progressive during the treatment. Besides these results, which, it must be said, were attained with the additional aid of general hygiene and dietetic treatment, the paper reports other facts of great interest. One of these is that while blood-serum of the normal individual has an antitoxic action toward the tuberculous toxins and that of the tuberculous patient has not, the latter regains this after a month or so of treatment with the Maragliano serum, thus showing that the latter puts the system into a condition to assist in defending itself. If [illegible] berculin are also noteworthy. He holds that it directly increases the amount of toxins already in the organism, and in tuberculous individuals it may need "only the fraction of a gram to overthrow the already unstable equilibrium." When we remember that the use of tuberculin is being advocated by some for a diagnostic purpose, these statements are deserving of careful consideration. If we accept, with Mircoli, the views of Naegeli that practically all persons are or have been infected and still carry the latent foci in their bodies, this possibility of stirring them up to activity is a very serious one. While all the views and facts contained in Mircoli's article are not new, yet it is worthy of careful attention as an important contribution on the therapeutics of tuberculosis. Something must be allowed, however, for a possible enthusiasm in such a paper, and it may be perhaps considered as somewhat of an *ex-parte* view of the method.

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[1] See p. 914.

Medical News.

CALIFORNIA.

The Spaniard who brought smallpox to Chico has died; another case has appeared, and quarantine has been established.

The Pasadena Medical Society, on September 11, passed resolutions commending the local board of trustees for its action in sewering the city.

Oakland's death-rate for August was the lowest on record, 9.76 per thousand per annum. More than 20 per cent. of the deaths were from consumption.

Dr. Junius D. Young, Stockton, was reappointed first assistant physician at the State Hospital, September 13. Under the new regulations this gives him a life position from which he can be removed only for cause.

The Gibbs Building, the first of the brick structures which are to replace the frame buildings of St. Luke's Hospital, San Francisco, had its cornerstone laid, September 19. The building will be 135 feet long, 44 feet wide and two stories and a basement in height.

Los Angeles parents are being forced to obey the vaccination law. One opponent has had his five children refused admission to school for want of certificates. The health officer is vaccinating the children by fifties and is also supplying virus and certificates to local physicians.

The quarantine officer of San Francisco, who applied for a mandamus to compel the audit of his demand for salary, has had his application denied by Judge Seawell, on the ground that the duties of quarantine officer do not extend to any part of the city and county and that efficient quarantine and inspection is already maintained at that port by the United States Marine-Hospital Service.

GEORGIA.

The charter members of the Georgia Pasteur Institute and Laboratory met in Atlanta September 21 and organized by electing the following board of directors: Drs. Charles D. Hurt, Claude A. Smith and James N. Brawner, Atlanta; Dr. Henry R. Slack, La Grange; Dr. James H. McDuffie, Columbus; Dr. St. Joseph B. Graham, Savannah; and Dr. Ernest P. Ham, Gainesville. The following officers were then elected: Dr. Henry R. Slack, president; Dr. James H. McDuffie, vice-president; Dr. Claude A. Smith, secretary; Dr. Charles D. Hurt, treasurer. The directors propose to have in connection with the institute the best equipped pathological and bacteriological laboratory in the South and expect to open before November 1.

ILLINOIS.

Dr. John E. Tuite, Rockford, has moved to Chattanooga, Tenn.

Dr. William R. Parkes has been appointed commissioner of health of Evanston, to succeed Dr. A. B. Clayton, deceased.

Dr. Henry Hatch and family, Quincy, sail for Europe on the *Campania* to-day. They expect to be gone some months.

The City Hospital is the name given to the new emergency hospital, Quincy. The health officer reported 39 deaths in the city during the month.

A suit for $25,000 for false detention and brutal treatment has been entered by Daniel W. Storms against the Illinois Eastern Hospital for the Insane, Kankakee, to which he was committed in 1898, and from which he was discharged "improved" July 3, 1899.

Chicago.

Dr. Fenton B. Turck has returned from Europe.

Dr. Moreau R. Brown has returned from the South, and resumed practice. He has associated with him his son, Dr. James M. Brown.

Dr. August F. Lemke has accepted a position in the department of didactic medicine in the Northwestern University Medical School.

Illinois Medical College held its sixth annual commencement at Handel Hall, September 27, when nineteen men and one woman received degrees in medicine.

Dr. George F. Butler, of the Alma Sanitarium, will be at the Columbus Memorial Building every Wednesday afternoon until June 1 next.

The following changes have been made in the faculty of the Chicago Policlinic; Dr. Norval H. Pierce has taken the chair of otology; Dr. J. Rawson Pennington, that of diseases of the rectum, and Dr. Otto T. Freer, that of laryngology and rhinology.

On the petition of the attorney-general, Judge Hanecy issued an injunction on September 27, restraining the officers of the Metropolitan Medical College from conducting its business in violation of the terms of its charter. The court is also asked to dissolve the corporation, which is declared to have conducted a fraudulent business and abused and violated its charter since its organization, in 1896. The basis of the petition is the allegation that the college, while advertising itself to be a legitimate institution, did not require the attendance of applicants before conferring on them the degree of doctor of medicine.

HEALTH DEPARTMENT.

There has been such a remarkable decrease in the prevalence and in the mortality of the contagious diseases since June 1 that the department has made it the subject of special study. Up to the close of May the aggregate number of deaths from the two typical contagious diseases, diphtheria and scarlet fever, was very nearly the same as for the corresponding period of last year, namely, 584 in 1899 and 557 in 1900. Between June 1 and September 22 these deaths numbered 320 in 1899 and 191 this year—a decrease of 109, or more than 34 per cent. in the last four months. The reduced prevalence of the contagious diseases is shown by the decreasing calls for disinfection. During the first five months of this year 2665 disinfections were called for, as against 1704 in the corresponding period of 1899, an excess of 36 per cent. this year. Since June 1 the proportions have been nearly reversed, 759 this year and 1099 last year, or 31 per cent. fewer.

The health commissioner has received a report from Mrs. Clara Doolittle, sanitary inspector, which shows that there are more than forty asylums in Chicago where babies are taken care of for a consideration. She condemns the manner in which most of these "baby farms" are conducted and believes that some regulation of the system should be required whereby none but suitable persons should be in charge, and a limitation would be placed on the number of children in an asylum. By these means, properly enforced, the present extremely high death-rate might be reduced materially.

The total mortality for September, despite the unusually trying weather of the month, was only slightly in excess of that of September, 1899. The uncorrected total of deaths reported up to midnight of September 30 is 1885—being 63 more than for the month last year and 94 more than the average September mortality of the previous five years. During the closing week of the month 458 deaths were reported—an excess of 18 over the previous week and of 43 over the corresponding week of 1899. The excess is mainly among infants and children, to whom the recent sudden and extreme changes of temperature have proved particularly trying. To these changes is to be attributed the increased mortality from the acute intestinal diseases, and not to the character of the water-supply. With the solitary exception of the samples collected on the morning of September 25 the water has been continuously usable or good for 23 days. The results of this good quality of the water are seen in the lowest typhoid-fever mortality for any September in fifteen years. The death-rate for the week ended September 29 was 14.05 per thousand. Of males 254, females, 204; infants under 1 year, 116; between 1 and 5 years, 66; and over 70 years, 78 died. The principal causes of death were: Acute intestinal diseases, 90; consumption, 49; heart diseases, 33; nervous diseases, 29; pneumonia, 27; violence, 17; cancer, 16; Bright's disease, 16; convulsions, 15; diphtheria, 14; bronchitis, 13; typhoid fever, 9, and suicide, 9. During the week 570 births were reported. In the laboratory 340 samples of milk and cream were examined, 8.29 per cent. of which were below grade.

INDIANA.

DR. JOHN E. OWEN, Evansville, was seriously injured in a runaway accident, September 24.

THE CENTRAL COLLEGE OF PHYSICIANS AND SURGEONS, Indianapolis, began its twenty-second annual session September 20.

DR. CHARLES HOLTZENDORFF, Plymouth, has returned, after a summer spent in his old home in Germany.

DR. ROBERT N. C. COOK, Boswell, was married to Miss Gertrude L. McClure, a trained nurse, of Vincennes, at Spencer, August 18.

DR. WILLIAM B. MCDONALD, New Augusta, suffered fracture of two ribs and injuries to the left leg and head in a runaway accident September 19.

DR. THEODORE A. HOCH, Michigan City, has gone to Worcester, Mass., to enter on his duties as house physician at the Massachusetts State Insane Asylum.

THE MEDICAL COLLEGE OF INDIANA, Indianapolis, held its entrance examination for freshmen September 25, and the fall term opened on the following day.

PROF. GEORGE W. HUFFORD, principal of Shortridge High School, Indianapolis, has been appointed by the State Medical Board of Examination and Registration to act as examiner of the literary qualifications of applicants for admission into the freshman classes of the local medical colleges.

IOWA.

THE NEW $10,000 addition to the Dallas County Hospital, near Adel, is now completed and ready for occupancy.

TWO HOSPITAL PROJECTS are under consideration in Waterloo. The first contemplates the establishment of a general public hospital open to patients of all qualified physicians and governed by a lay board of trustees. The second scheme is the formation of a stock company, composed of physicians, to build and equip a hospital. Between $5000 and $6000 has already been pledged in stock subscriptions.

KANSAS.

DR. O. PORTIS DAVIS, Topeka, was married on September 19 to Miss Mabel Glendennning, also of Topeka.

DRS. M. R. MITCHELL AND C. HAMMOND, Topeka, have opened a hospital in North Topeka called "Riverside Hospital and Maternity."

DR. JOSIAH P. LEWIS has been made professor of gynecology in Kansas Medical College, Topeka, in succession to the late Dr. S. E. Sheldon.

DR. S. B. CHILCOTE, on account of failing health, has sold his practice in Onaga to Dr. Frank W. Randall, Wheaton, and expects to settle in California or the South.

THE KANSAS STATE BOARD OF HEALTH has declared war on the Independent Medical College of Chicago, and will not permit those holding its diplomas to practice in the state.

PLANS are now in the hands of local contractors for the erection of a large private hospital in Ellsworth, to be owned and operated by Drs. Henry Z. Hissen and H. O'Donnell, of Ellsworth.

MARYLAND.

DR. CHARLES F. DAVIDSON will move from Queenstown to Easton.

THE BOARD OF HEALTH of Baltimore County met at Towson September 20 and discussed the quality of vaccin virus supplied to the vaccinating physicians, received reports of seven cases of diphtheria and decided that the secretary should receive the fee of 20 cents for the registration of each birth and death in the county.

Baltimore.

DRS. WILLIAM OSLER AND THOMAS C. GILCHRIST have returned from Europe.

DR. B. MERRILL HOPKINSON was re-elected president of the Atlantic Association of the Amateur Athletic Union at Philadelphia on September 17.

THE BALTIMORE UNIVERSITY opened October 1 with an address by Prof. J. A. Melvin on "Medical Folk Lore."

THE WOMAN'S MEDICAL COLLEGE opened October 1 with an address by Prof. Claribel Cone.

DR. G. MILTON LINTHICUM, professor of physiology and rectal surgery in the Maryland Medical College, who has been studying abroad, will return to his duties this month.

DRS. JOHN RUHRAH AND MELVIN S. ROSENTHAL, who served as resident and assistant physician, respectively, at the local quarantine station, are in Europe pursuing studies in their specialties, internal medicine and skin diseases.

MARYLAND MEDICAL COLLEGE opened for the fall session September 17. Prof. Richard L. McNeer made the introductory address. Dr. Harry Gross has been appointed professor of operative and clinical surgery and Dr. Ernest [illegible] Grande professor of chemistry and toxicology.

THE BALTIMORE MEDICAL COLLEGE opened on the evening of September 27 with an address by Prof. W[illegible] on "Medical Education from the Standpoint of the [illegible] Medical College." Dr. J. M. H. Roland has been made professor of obstetrics. Mr. Archibald H. Taylor has [illegible] chair of medical jurisprudence and [illegible] State Senator Olin Bryan.

MICHIGAN.

THE FALL TERM of Saginaw Valley [illegible] commenced September 1[illegible]. The [illegible] new students were delivered in the college [illegible]

DR. K. H. [illegible], a recent [illegible] College of Medicine, was refused [illegible] Armenia by the Turkish [illegible] come an American citizen, and has [illegible] practice

THE TRIAL of "Dr." Hal[illegible] $25 and of medicine resulted in the [illegible] serving costs. The defendant is [illegible] imposed. 30 days in jail in default [illegible]

[illegible]

[illegible] St. Paul, has

THE BOARD OF CONTROL of the [illegible] in the last accepted the offer of Dr. [illegible] for the equip- issue of THE JOURNAL [illegible] ment of the bacteriological [illegible] of the University of

THE COLLEGE OF [illegible] year, September 25, Minnesota, Minneapolis, [illegible] evening in the amphi- At an informal [illegible] the college, spoke upon theater. Dr. Richard [illegible] secretary of the State "The Hospitality of [illegible] investigating the death of a Dr. John B. [illegible] treatment by an un- Board of Medical Examiners [illegible] complaint. He intends to patients from [illegible] licensed physician [illegible] presenting the [illegible] to the full extent

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MISSOURI.

Dr. C. Lester Hall, Kansas City, has been sued for $15,000 because, as the petition relates, he set a broken leg, and when it healed, it was shorter than the other.

Four cases of suspected smallpox were reported in one block in Kansas City, September 24.

The Eclectic Medical University, Kansas City, has been ordered by Judge Henry, of Independence, to issue a diploma to Minnie B. Lang, who had paid her fees, taken her course and complied with all legal requirements. As the state board of health had instructed this college to issue no diplomas until spring, it remains to be seen what the board's action will be when this diploma is presented with a request for a license to practice.

NEBRASKA.

The Omaha Medical College held its opening exercises September 25. Dr. William B. Ely, Ainsworth, delivered the address.

Dr. Howard M. Casebeer, Lincoln, has been appointed first assistant superintendent of the State Insane Asylum, to succeed Dr. Dearing, transferred to the superintendency of the Institute for the Feeble-Minded, at Beatrice.

Creighton Medical College, Omaha, began its seventh annual session, September 24. The opening address was made by Dr. Frank E. Sampson, Creston, Ia., on "The Evolution of Medicine."

NEW JERSEY.

The women of Asbury Park are trying to raise sufficient money to build and equip an isolation hospital for contagious diseases.

The friends and relatives of Dr. George Yardley Taylor have been apprised of his death in China. He was massacred in Pao-Ting-Fu with the Hodges and Simcoxes. Dr. Taylor was a graduate of the University of Pennsylvania and formerly resided at Burlington.

Medical inspection of schools is now proposed for Newark and Paterson. In the former city it is estimated that the cost will not exceed $1500 per year. Under the law any board of education is empowered to employ medical inspectors, fix their salaries and define their duties.

NEW YORK.

Application has been made to the State Board of Charities by the Herkimer Emergency Hospital, for permission to incorporate.

The Corning Hospital received 47 patients during the first three months of its existence. The attending surgeon for the coming quarter will be Dr. Charles W. Hayt; attending physicians, Drs. John L. Miller and Willis S. Cobb.

A hospital is to be erected in Johnstown, by Alden M. Young, New York City, who has already donated twelve lots on Pennsylvania avenue for the building. The hospital, when finished, will be presented to the city.

Dr. Edward A. Parker, Brooklyn, has been appointed junior assistant physician at the Long Island State Hospital, and Dr. James L. Devlin, Sonyea, medical interne at the Manhattan State Hospital.

Violators of quarantine in Rochester will be liable to a year's imprisonment, or both, in virtue of a section of the code which provides this punishment for violation of any rule lawfully passed by a health board. The attorney for the health department gives warning that this law will be enforced rigidly.

The Albany Medical College resumed its sessions, September 26. The introductory lecture was delivered by Dr. Hermon C. Gordinier, Troy. Dr. Andrew MacFarlane has been made adjunct professor of medical jurisprudence and physical diagnosis, and Dr. Arthur G. Root, clinical professor of diseases of the throat and nose.

Zeta Phi, Syracuse, was announced in The Journal of September 15, page 697, as the first and only medical sorority in the country. In this our informant erred, and in a recent letter asked that the correction be made that a medical sorority had existed in the West for some time. From another source we learn that the Alpha Epsilon Iota "fraternity" was organized in 1890, with chapters in several universities.

The Saratoga County Medical Association was organized at Saratoga Springs, September 28. The Code of Ethics of the American Medical Association was adopted, and a resolution was passed requesting to be admitted to the New York State Medical Association as a subordinate county association. The officers elected were: Dr. F. J. Sherman, *president;* Dr. G. F. Comstock, *vice-president;* Dr. J. F. Humphrey, *secretary;* Dr. W. E. Swan, *treasurer.*

New York State Medical Association.—The approaching meeting promises to be one of unusual interest. It will take place on October 15 to 18 in the Academy of Medicine building, New York City. Considerable interest centers in the meeting of the Council and Fellows on October 15, at which time the committee on reorganization will make its report. There will be a symposium on "Obstetrics," one on "Blood," with lantern slide exhibition, and another on "Special Surgical Tuberculosis." Many prominent men from out of the state, as well as from the state itself, will take part.

Buffalo.

The Medical Department of the University of Buffalo opened its fifty-fifth session September 24. Dr. Eugene Smith, the speaker of the evening, discussed the ethical and intellectual advantages to a city and community to be derived from a university. Dr. Frederick Busch succeeds Dr. Julius Pohlman as professor of physiology.

New York City.

Dr. Emil Mayer has been ill with typhoid fever for the past five weeks, and is still in a serious condition.

The Brooklyn Health Board has made complaint against Dr. Henry W. Haskell for failing to report a case of consumption, as required by the law, which went into effect two years ago, but until now has not been enforced.

Because he turned out a consumptive patient from the Metropolitan Hospital, Blackwell's Island, Commissioner John W. Keller suspended the superintendent, Dr. Clyde E. McDonald, for thirty days. This was done notwithstanding the statement by the acting superintendent that the hospital was overcrowded and it was necessary to let the man go.

A home for convalescents is to be established at Yonkers. Adrian Iselin, of New Rochelle, has purchased the old Hartley homestead, a pretentious colonial mansion in the outskirts of the city, and has set about remodeling it so as to provide proper accommodations for about 150 convalescents. When completed, the house will be a three-story stone structure, having a piazza on three sides, and surrounded by extensive grounds.

An interesting case of acute general emphysema has been recently observed at the Harlem Hospital. The patient was a man who had fallen from a five-story building and fractured three ribs. The fragments of bone penetrated the lung, and thus opened a channel through which the air could escape from the lungs into the cellular tissue. Within three hours the man had swollen to an enormous size, and the skin was very tightly stretched over the inflated tissues. Temporary relief was afforded by incision and massage.

The obsequies over Dr. Lewis A. Sayre were held Sept. 23 in Grace Church. Members of the medical profession and numerous lay friends crowded into the church to pay their last homage. The coffin was decorated with large floral pieces from the faculty of the medical school with which Dr. Sayre had been so long connected, and upon his breast were pinned some of his treasured decorations. The interment was in Trinity Cemetery. Dr. Sayre's will, which was filed for probate on the 25th, disposes of an estate of $50,000 in real and $3430 in personal property. The old family residence at 285 Fifth avenue will go to his two surviving children, Dr. Reginald H. Sayre and Mary Hall Sayre. He leaves to his son his medical books, instruments and specimens, and his insignia of the Order of Wasa, given him by the King of Sweden.

At a special meeting of the executive committee of the New York County Medical Association, held September 24, 1900, the following resolutions were unanimously adopted: Whereas, it is our sad duty to announce the death, on September 21, 1900, of our late associate, Dr. Lewis Albert Sayre, one of the founders of The American Medical Association, and its president in 1880; therefore, be it resolved, that we place on record our high appreciation of the valuable services which he has rendered to medicine and surgery during his long and useful life; resolved, that his daring originality, his freedom from surgical traditions, along with his unflagging enthusiasm and interest in everything pertaining to his beloved profession, constituted him a teacher of rare excellence, whose pupils will cherish his memory long after the voice of their preceptor is hushed; resolved, that we extend, in the name of the members of the New York County Medical Association, our heartfelt sympathy to the afflicted relatives, and direct that a copy of these resolutions be sent to the family and to the medical journals.

The State Board of Charities has made public a report by Dr. Robert W. Hill of his inspection of the hospitals and almshouses of the city. He urges that increased and better accommodations be provided in most of the institutions visited, and calls special attention to the lack of adequate protection against fire. He complains that there is a lack of provision for helpless and crippled children, these unfortunates being left wholly without accommodation except what may be provided by private charities. He is in favor of utilizing Blackwell's and Randall's islands permanently for the city's charitable institutions, adding that Blackwell's island is not the most suitable place for a prison. The isolation of consumptives in the City Hospital is advised. As was to be expected, he characterizes Harlem and Fordham Hospitals as utterly inadequate and unsuitable for the work they are required to do. Concerning Bellevue Hospital, the report says: "There can be no doubt that from foundation to roof it is full of the germs of disease, and this in spite of all the efforts of science to dislodge them." He thinks the old hospital should be torn down and replaced by a modern structure worthy of New York City. He suggests that, in connection with the out-door department, a bureau be established for the enrollment of applicants for work in the hospitals. This would secure a better class of help, and at the same time give needed aid to many of those discharged from public institutions.

The water famine in New York City threatens to assume serious proportions. Malaria and typhoid fever are reported as being rapidly on the increase in the Borough of the Bronx, and already there are forty fever patients in the Fordham Hospital. This hospital, which is situated on Fordham Heights, has felt for some time the full force of the scarcity of water. A few weeks ago it was reported that a surgical operation had to be deferred until evening because no water could be obtained at the hospital. For a week past not a drop of water has been drawn in the hospital buildings or on the grounds, and the needs of this institution have been met only by establishing a bucket brigade and bringing the water from a hydrant in the valley, half a mile distant. The hospital will soon have no room for more patients, and, in any case, if some relief is not obtained quickly from the water department, it will be compelled to close its doors, The water famine is equally serious in the Borough of Brooklyn.

OHIO.

The Toledo Medical College opened on September 27. Rev. F. D. Kelsey made the annual address.

Dr. Charles O. Probst, secretary of the State Board of Health, sailed for the United States September 16.

Two Canton physicians, Alonzo B. Walker and Austin C. Brant, have returned from an extended trip on the Continent.

Dr. Joseph F. Fox, New Philadelphia, has returned after a two months' absence, spent chiefly in study in London, England.

Dr. Darlington J. Snyder, Columbus, has been selected as the incumbent of the chair of psychologic medicine recently established at the Ohio Medical University.

Examinations for the freshman classes of the medical colleges of the state were held in Columbus, September 25, 26 and 27, by Profs. E. W. Coy, Cincinnati; Edward L. Harris, Cleveland; H. J. Eberth, Toledo, and Charles E. Albright, Columbus, the examiners appointed by the State Board of Medical Registration and Examination.

The Cleveland College of Physicians and Surgeons opened its fortieth annual session in its new building, September 19. Addresses were made by Rev. John B. Hillman and Dr. Charles B. Parker, dean of the college, who gave a historical review of the college and university.

The Cleveland Medical Society passed the following preamble and resolutions brought before it by the committee on hygiene: Whereas, a resolution has been introduced into the school council providing for the appointment of three medical inspectors of buildings, such inspectors to be appointed by the director of schools; and, whereas, such inspection properly belongs to the department of hygiene already established and in operation for five years, and is essentially a function of the educational rather than the executive department of the schools; resolved, that we, the members of the Cleveland Medical Society, hereby recommend that the school council give to the supervisor of hygiene a sufficient number of medical assistants, not less than two, to enable the department to more effectively conserve the health of teachers and pupils by giving more frequently practical instruction in all matters pertaining to hygiene and by more frequent and thorough inspection of the physical condition of the children and of the condition of the buildings as to heating, lighting, ventilation, cleanliness, particularly of closets, and the like.

Cincinnati.

Dr. Edwin W. Mitchell has returned from a three-months' trip in Europe.

The death-rate for the week ended September 22 was only 10.40 per thousand. The total number of deaths was 91, of which 86 were white and 5 colored; 16 were over 65 years of age, and 16 were under 1 year; 50 females and 41 males. There were 11 deaths from violence.

The plan of obtaining filtered drinking water for the use of public school children will be tried first in the new school buildings, numbering about a dozen. This plan has been used in the city hospital for several months with great success and without additional expense. It is purposed eventually to supply all school buildings with filtered, previously sterilized water.

PENNSYLVANIA.

Dr. William W. Keen returned September 25 from Europe.

The new hospital for the insane at Woodville was opened September 26.

Major George H. Halberstadt, Pottsville, brigade-surgeon, N. G. Pa., was shot at from ambush September 20 while on duty near Shenandoah, but fortunately was not wounded.

Diphtheria is still prevalent in Carlisle, and on September 24 two more houses were quarantined on account of the disease. The outbreak is attributed to a polluted spring.

Typhoid fever is said to be more prevalent than usual at Stowe, a suburb of Pottstown. On examination of the water obtained from a well it was found to be polluted and has been condemned.

Diphtheria is still prevalent in Carlisle, and on September district of Millville, near Altoona, and the State Board of Health has been asked to control matters there. Fourteen cases were found on that day, making a total of 32 cases so far reported.

A committee of the board of trustees of the State Hospital at Fountain Springs laid before the State Board of Charities the plans for the proposed addition to the hospital. They hope to secure an appropriation of $50,000 for the purpose from the next legislature. The addition is urgently needed, as the hospital has been overcrowded for several years.

Superintendent Lance, of the Spring Brook Water Company, was, on September 28, arraigned before Mayor Nichols, of Wilkesbarre, on the charge of supplying impure water to the citizens of that place. The city ordinance provides for a fine of $100 a day when impure water is allowed to run through the mains. Dr. Walter Davis, the city inspector, had pronounced the water unfit for domestic purposes.

Philadelphia.

Dr. W. W. Keen has returned from his trip to Europe.

Dr. Harry W. Cattell has gone to Europe for a few weeks vacation.

Through the bequest of Emmeline Macurdy, who died at Mt. Holly, N. J., recently the sum of $5000 has been left the Episcopal Hospital.

Dr. Horatio C. Wood, who has been for the past three months in Japan, arrived home on September 24, bringing with him a large collection of curios.

The president of the Free Hospital for Poor Consumptives reported that during the first six months of the year, 116 patients were cared for, at an expense of $4584.97. It now has 31 patients under its care.

The fall sessions of the Medico-Chirurgical and of the Women's Medical College have begun. At the Women's Medical College the chair of surgery has been divided into surgery and clinical surgery.

The number of deaths which occurred during the week ended September 29 was 347, a decrease of 9 over that of last week and is less than the corresponding periods of the last three years. The principal causes of death were: Apoplexy, 14; nephritis, 31; cancer, 19; cholera infantum, 12; tuberculosis, 51; heart disease, 19; pneumonia, 12; peritonitis, 6; septicemia, 5; and diphtheria, 10.

Jefferson Medical College opened on October 1. The total enrollment shows an increase of 100 over that of last year and makes a total of 700. The principal addresses were delivered by President William Potter and Prof. Francis X. Dercum. Only one change has been noted in the faculty, that of Dr. H. F. Harris, who was formerly associate professor of pathology, but has resigned to accept the chair of pathology in the Atlanta (Ga.) Medical College.

Victor B. Hall, of London, Ont., has been on trial in that city, charged with causing the death of a woman by withholding from her medicine which should have been given during her last illness, but was finally acquitted. He formerly lived in this city, was the founder of what is known as "The Vital Friends," and was known in his neighborhood as the "Doctor of Vital Science." According to his teaching all diseases are due to indiscreet eating, and can be cured by a proper diet.

The University of Pennsylvania opened its one hundred and sixtieth annual session on September 28. The medical department began its session on October 1. Several changes have been made in the faculty since the last term: Dr. William J. White becomes John Rhea Barton professor of surgery; Drs. Edward Martin and Charles H. Frazier become professors of clinical surgery; Dr. J. Francis Walsh has been appointed prosector to the professor of anatomy; Drs. Brooke M. Anspach, instructor in clinical gynecology; Collins C. Stewart, demonstrator of physiology; Richard M. Pearce, demonstrator of pathology, and William F. Hendrickson and Frederick H. Howard, assistant demonstrators of pathology. A new system of instruction has been inaugurated in the first and second year classes in both the medical and dental departments. Under the new system anatomy will be taught the first year, while the whole of physiology will be completed in the second year. Materia medica and therapeutics, which were formerly taught in the first and third years respectively, will be changed so that materia medica will be taken up in the second year, and therapeutics the third year.

Professor Joseph Leidy, the celebrated anatomist and naturalist, was especially famous for his skill in the study of animal parasites. His discovery in 1846 of the trichina spiralis in the hog, and the subsequent association of the disease now known as "trichinosis" with this infected pork, brought him an international reputation as a helminthologist. A consequence of this was a large correspondence from all parts of the country in regard to parasitic worms. His correspondents were not always careful and trained observers, and though considerably annoyed, he was at the same time greatly amused by some of the "specimens" sent to him for diagnosis. At one time he was sent a peculiar "worm" vomited by a child in Washington, D. C., that proved on examination to be the undigested fiber of an orange. A particular instance of his ready wit is seen in the following anecdote: Some years ago he was sent a specimen, believed to be a segment of a tapeworm, that had been passed by a woman with a history of progressive emaciation, and who had not improved under feeding with highly nutritious foods and juices, and the administration of tonics. Dr. Leidy sent word that the segment passed was that of a tape-worm, but of an unusual type, and, moreover, that it was more than likely that the physician himself was responsible for the lodgment of the parasite. This most extraordinary statement brought a speedy visit from the physician in question. Dr. Leidy explained that the parasite resident in the bowel of the patient was of the species *tænia saginata,* which commonly infests beef, and he had inferred that the most likely mode of infection in the case was in the administration of the juice of raw beef, which was commonly prescribed to invalids at that time. The physician at once acknowledged the truth of Dr. Leidy's supposition, and never ceased paying tribute to his keen wit.

TEXAS.

The situation at Galveston has so improved that the State Board of Health, which has been in almost continuous session, adjourned indefinitely September 21.

The Dallas Polyclinic and University has been incorporated by Drs. Samuel E. Milliken, Jesse B. Titterington and Lawrence Ashton, with a capital stock of $3000. The object is the establishment of a school of medicine and surgery, and a dispensary.

Dr. Levingston L. Shropshire, San Antonio, proposes to remove the debris from Galveston, by pressing 2000 convicts into the work, who, he says, can do as much work as 5000 ordinary laborers. Meanwhile, convictless, Galveston is being cleaned.

Arrangements have been perfected for the immediate repairing and refurnishing of the medical college at Galveston, recently injured by the storm. The session will be opened Thursday, November 15, and will close Saturday, June 29, 1901. A careful consideration of the situation enables the Board of Regents to announce that the college will be opened on the above-named date with the same faculty as heretofore.

WISCONSIN.

The Washburn Hospital is nearly completed and will soon be ready to receive patients.

Smallpox is reported to exist in epidemic form in six of the large lumber camps in the northern part of the state.

The hospital at Merrill was opened September 22 under the direction of Dr. Michael Ravn, and was filled with patients on the first day.

Menasha is threatened with an epidemic of diphtheria. On September 26, 7 new cases were reported. During the previous month 17 cases with 13 deaths occurred. Oshkosh also fears an epidemic of diphtheria.

The hospital built by Dr. Horace M. Brown, Milwaukee, has passed into the hands of the superintendent of the Wisconsin General Hospital. It will be repaired, equipped and opened as a general hospital.

The Madison Hospital Association has decided to accept the offer of Mrs. Wayne Ramsay of a tract of four acres at Greenbush, for a new city hospital. The offer is conditioned on the erection of a hospital within two years. The directors are now making efforts to raise the $10,000 required for the construction of the building.

Osteopaths in Milwaukee have been arrested on warrants sworn out by the assistant district-attorney, acting under instructions from the State Board of Medical Examiners. The charges preferred are the unlawful use of the title of doctor and the practice of medicine without a license from the state board. The osteopaths propose to contest and make this a test case.

CANADA.

The Provincial Board of Health of British Columbia has issued a proclamation to the profession in that province regarding precautions to be taken in connection with the introduction of bubonic plague. It requires all physicians to notify their city and municipal health officers of any and every disease appearing among Chinese and Japanese residents, within six hours from the date of call.

Reporting on the offer of the National Sanitarium Association of $20,000 toward a free Consumption Sanitarium for Toronto if the city would contribute an equal amount, Dr. Sheard has advised the board of health to recommend to council its acceptance, provided the municipal act is complied with.

The Provincial Board of Health of the province of Quebec has taken prompt measures to offset any probability of the plague reaching and obtaining a foothold in that province, from Glasgow or elsewhere. Five hundred bottles of antipest serum have just been received from the Pasteur Institute at Paris. All vessels that can not produce a clean bill of health, or where anything suspicious is noted, will be detained at Grosse Isle until twelve days have elapsed from the time at which they set out from the port of embarkation.

During the progress of the meetings of the Canadian Conference of Charities and Correction, which assembled in Toronto the past week, Dr. Gilbert Gordon, president of the Toronto Medical Society, read a paper on the "Treatment of Inebriates," giving a very lucid description of the proposed legislation to be introduced into the Ontario legislature at the coming session. The details of this measure have already appeared in the columns of The Journal. At the conclusion of this convention, three medical men were elected to prominent offices therein: Dr. W. L. Herriman, Lindsay, president; Dr. A. M. Roseburgh, Toronto, Secretary; and Dr. J. T. Gilmour, Warden of the Central Prison, Toronto, chairman of the executive committee.

Dr. Montizambert, director-general of public health, has returned to Ottawa after an extended trip of inspection to Dawson, British Columbia and other points West. He will at once take charge of the situation created in Canada by the existence of bubonic plague in Glasgow. Referring to his tour of the Yukon and the West, which was taken to inspect the quarantine stations in British Columbia and along the United States boundary line, as well as to report on the outbreak of smallpox at Dawson, he says he found seven cases of the latter disease quarantined down the river from Dawson, and that there had not been reported a single new case since July 20. On his return to the Pacific province from the Yukon, he inspected the quarantine station at William's Head, which he found thoroughly equipped. The medical officers along the frontier of the tier of northern states from Montana westward, he found had been exceedingly vigilant in keeping out of Canada suspected cases of smallpox, so much so, that in his opinion, inspection of incoming trains was now no longer necessary.

FOREIGN.

The Leopold Order of Knighthood has been conferred on Prof. R. Chrobak, of Vienna.

Professor Gegenbaur of Heidelberg is to retire in April. Max Fürbinger, now at Jena, has been appointed his successor.

Krafft-Ebing, of Vienna, and Eulenburg, of Berlin, editor of the *Deutsche Med. Woch.*, each celebrated his sixtieth birthday in August.

Dr. C. L. Schleich, the inventor of infiltration anesthesia, has been placed in charge of the Gross-Lichtenfelder Hospital at Berlin, with the title of professor. He has never been connected with the faculty before.

Max Nitze, the inventor of cystoscopy, has been appointed to the newly created chair at Berlin of diseases of the urinary passages. This is the first time that urology has been thus distinguished at a German university.

A meeting of over a hundred members of the Italian legislature was held recently at Rome with Baccelli presiding, and resulted in the determination to erect people's sanatoria for consumptives in different parts of the country, all to bear the name of King Humbert and be under the special patronage of Queen Margherita. A committee of thirty members was appointed, which set to work at once to carry the resolutions into effect.

The survivor of the united twins illustrated in The Journal of September 16, 1899, has been taken to Europe. As mentioned recently, Chapot-Prevost performed the operation to separate the xiphopagi, which Alvaro Ramos had declared impossible, when, on incision, he found that the twins had but a single liver between them. One of the twins died a few days after the separation. The operation had been preceded by a long systematic constriction of the uniting tissues as a preliminary measure.

Female medical students have been admitted to the German universities this year and 618 have attended the lectures, but only nine have thus far entered as regular students. The women are even favored above the men at present, as certain work at a foreign university is credited to them in the state examinations. In Austria the authorities have decided to admit women also, on the same terms as men in every respect, with the new scholastic year. Among the 850 students at Zürich, 214 are women and 128 of these are studying medicine.

None of the personnel of the seven Red Cross ambulances sent into the haunts of malaria in Italy have contracted the disease, owing, it is supposed, to the precautions against mosquitoes. They have had occasion to treat 1772 patients, including 1329 with malaria, in their rounds through the Roman Campagna and Tuscan Maremma, where the workmen have been gathering in the harvest. The experiments instituted on three railroad lines have been equally successful in proving that protection against mosquitoes is practically synonymous with immunity against malaria in most cases.

LONDON LETTER.

INVESTIGATION OF TYPHOID FEVER AND DYSENTERY IN SOUTH AFRICA.

The government has dispatched an important commission of experts to investigate the nature, cause and prevention of dysentery and typhoid fever, which has been so fatal among the soldiers in South Africa. The commission consists of Dr. W. J. Simpson, professor of hygiene in King's College, London; Professor Notter, of Netley, and Major Bruce, R.A.M.C. Professor Simpson is a distinguished Aberdeen man, of which town he was medical officer of health for five years. His attainments as a sanitarian speedily became known, and he has served on several important commissions. In 1883 he went to Egypt and reported to the government on the cholera epidemic. In 1886 he was appointed medical officer of health for Calcutta, a post which he held with conspicuous success for eleven years. The government, against the advice of Sir Walter Foster, in the first instance refused to appoint a sanitary commission to assist the army medical staff in the prevention of epidemics in the South African campaign, but has now appointed one to investigate the epidemic which has been so extensive and so disabling to the troops.

THE GLASGOW PLAGUE.

There are now 24 cases of plague in hospital, and 2 suspected cases, and 28 persons are being kept under observation. Three deaths have taken place in hospital and 3 outside. The local government board have issued an order requiring the immediate notification to the local sanitary authorities of all cases of plague which may occur in England. The order also requires the sanitary authorities to send circular letters to all the medical practitioners in their respective districts informing them of their duties under the regulations, and it imposes on every medical officer of health the duty of forthwith reporting to the board any case of plague notified to him. The Dublin corporation, as a precaution against the plague, have established an isolation hospital at some distance from the city. It is fitted up with 24 beds, which can easily be increased to 100. As to the progress of the Glasgow outbreak from September 10 to 14, no fresh cases occurred. Then on the 15th a fresh case occurred in a ward-cleaner in the hospital. On September 17, 5 other cases were reported. Four of these occurred in a family which had been in contact with previous cases, and the patient in the fifth was the wife of a worker in the hospital. Yersin's antiplague serum has been used and appears to have had a distinctly beneficial effect. The dose was 40 c.c. subcutaneously injected. All the cases seem to have originated from those which occurred first in one house, but whence the contagion has been derived is still a mystery.

THE HOSPITAL COMMISSION.

Very important evidence has been taken by the hospital commission in South Africa. Sittings have been held at Bloemfontein, where General Kelly-Kenny paid a tribute to the conduct of the orderlies, who did a great deal of work in addition to their own. They even carried a number of Boer wounded across a river, wading up to their arms, which was a purely voluntary service. The most important evidence was that of the commander-in-chief, Lord Roberts. He said that on entering an unknown, sparsely populated and hostile country, it was absolutely necessary to take large food-supplies, and the number of mules and horses and the amount of forage for these were limited. Rapid movement was possible only by cutting down the equipment of the field hospital and other details, as every day's delay put more heart into the enemy. The whole question was one of limitation of transport and the first consideration was the supply of food and ammunition. In Bloemfontein everything possible was done for the care of the sick and an unlimited order was given to commandeer everything obtainable. The enormous difficulties were shown by the fact that from March 13, when Bloemfontein was reached, till March 28 not a single truck was able to cross the Orange River. For 16 days, therefore, there were no supplies, and but few medical comforts. From March 29 till April 7 the trucks sent to Bloemfontein were 105 less than the number required to supply the food actually necessary. The troops were only just fed, and not one day's reserve was accumulated. At Kroonstadt everything obtainable was commandeered, and ladies came crying that mattresses and beds were taken from under them. Lord Roberts thought that no blame attached to the home authorities in reference to the supply of military stores and equipment. The campaign had been an extraordinarily difficult one from the hospital point of view. In his opinion the Royal Army Medical Corps, assisted by the civilian surgeons had met the difficulties magnificently. Lord Kitchener declared that the cutting down of the hospital transport under the order of January 29 was absolutely necessary in order to quickly relieve Kimberly. The problem was what could be carried with the number of mules available. He deprecated placing the transport altogether in charge of the field hospitals. Surgeon-Gen. Stevenson explained that the men had to lie in the field hospitals in their khaki uniforms, as no provision was made for supplying the field hospitals with clothes. In Bloemfontein everything was taken that was capable of being worked by the personnel. He admitted that there was a shortness of utensils, milk, bedding, etc., and overcrowding of the general hospital. There was also, for a short time, a lack of drugs and utensils in Kroonstadt and Pretoria. He had permission from Lord Roberts to purchase everything obtainable, and he spent several thousands of pounds.

LONDON'S LUNATICS INCREASING.

The annual report of the county council shows that there are more pauper lunatics in London than ever. The only consoling feature is that the rate of increase last year was not so great as usual. At the beginning of this year the number of lunatics was 21,393 against 21,060 last year. There is a high proportion, 1 in 6, of mania from alcohol and more than double the number of women than men have been admitted from this cause. It is found that women relapse and are readmitted with greater frequency than men. Drink was a more prolific cause of insanity than hereditary taint, and much more so than "business worries," "love affairs," etc. Single patients outnumbered the married. This last year the admissions were 1804 married, 2063 single.

Correspondence.

A New Remedy for Whooping Cough.

Calumet, Mich., Sept. 24, 1900.

To the Editor:—In the *Berliner Klinische Wochenschrift* for Dec. 11, 1899, appeared an article by Dr. Max Heim, of Düsseldorf, in which he recounted such successful results in the treatment of pertussis with a new remedy, "antitussin," that I was impelled to obtain a small amount of the remedy for trial. The results of this trial are, I think, sufficiently interesting to be worthy the notice of those who may not have seen Dr. Heim's original article or any abstract of it. It is an ointment, consisting of 5 parts difluordiphenyl, 10 parts of vaselin and 85 parts of lanolin, and is administered by inunction. The back, chest or abdomen of the patient is thoroughly washed with warm soap and water and rubbed dry with a rough towel. On the skin thus prepared the ointment is applied, a small portion at a time, and rubbed in until the greasy feeling has disappeared. This usually requires from twenty minutes to half an hour. The amount applied at one time varies with the age of the patient; for a child a year old I used a quantity of the ointment as large as the end of my thumb, and for one 5 years old about twice as much. I think, however, that slightly larger amounts would give still better results. I have treated six cases in all, and have been furnished with the data of one other, which was treated by my associate, Dr. Bourland. These ranged in age from four months to six years. In all of them the treatment was not commenced until the paroxysmal stage had been reached, and in most of them this had proceeded about two weeks. In general, the cases were treated in the manner above described daily for the first week, and thereafter every other day until the conclusion of the case. In all an immediate improvement was noted from the very first application of the ointment. The number of the paroxysms rapidly diminished. In four of the cases in which an accurate count was kept of their number, they diminished as follows: In Case No. 1, from 16 paroxysms on the first day of treatment to none on the thirteenth; in Case No. 2, from 27 on the first day to none on the thirteenth; in Case No. 3, from 18 on the first day to none on the sixteenth; in Case No. 4, from 25 on the first day to none on the fifteenth. In another case in which very severe paroxysms, though few in number, had existed for over a week, there was not a single severe additional attack after the first application of the remedy, and the attacks entirely disappeared after the fourth application. In one of the cases there was a relapse about a week after a cure seemed to have been effected.

The severity of the paroxysms, as well as the number, rapidly diminished from the time of beginning the treatment. They were neither so long nor so exhausting; the vomiting which usually followed them became less frequent and the children improved in appetite and in getting their normal amount of sleep. At night the greatest improvement seemed to be manifested. *In fact, from the beginning of treatment, the patients all steadily improved, and progressed to a complete recovery, save in the one case of relapse mentioned. They were receiving* no other medication during the time of this treatment. The patients all seemed to take kindly to the method of medication, and the younger babies in particular seemed to get a great deal of pleasure out of the process of inunction. In no case were any unfavorable symptoms, visceral or otherwise, observed which might have been due to the use of the remedy.

In a disease like pertussis, for which so many remedies have been proposed, and most of them untrustworthy, any one which approaches the nature of a specific would be given a hearty welcome. While my limited experience with the remedy does not warrant my making any too extravagant statements concerning it, I do feel justified in expressing the belief that it is of great value in pertussis, and well worthy of a trial by any who are called on to treat this disease.

Frederick T. Wright, M.D.

The Kernel of Listerism.

Fort Reno, Okla., Sept. 21, 1900.

To the Editor:—Your editorial entitled "Pathologic Asepsis" on page 691 of The Journal of Sept. 15, 1900, helps to answer the query: What, after all, does the good residuum consist of when Listerism has been boiled down, filtered, and, in general, freed from all extraneous and worthless ingredients? That there will be a good residuum is beyond doubt. It has long been known that germs are necessary for digestion, for producing fermentation, and for bringing about useful decay of dead bodies, vegetable or animal. In other words they promote progress. The best garden-soil reeks with germs, poisonous and non-poisonous. Sterilized soil plus sterilized water will bring forth nothing, whether sown or not sown. Your editorial implies that, without the little organisms, wounds will not heal. In other words, life—for germs represent; and the word "germ" primarily means, life, or the first principle—is needed everywhere we wish to maintain or to increase life. Furthermore, wounds not infrequently healed by first intention before asepsis was dreamed of; and during the last few years in Cuba, the Philippines and South Africa, it seems to have been the rule rather than the exception that the simpler wounds healed that way—and certainly asepsis or antisepsis was not usually carried out—could not be, in fact.

But cleanliness was enforced. Gross handling, the application of dirty substances, and the probing with dirty instruments, was not allowed. In most cases a clean bandage was immediately placed over the wound—though the latter was but imperfectly cleansed—and kept there.

Is it not entirely pertinent, then, to ask: Does not the condensed extract of Listerism—the solely useful part to the patient—consist merely in the cleanliness involved? It would appear that had surgery forty years ago been the cleanly art it is to-day Listerism would never have seen the light. The old saying, "cleanliness is next to godliness," receives new force.

Very respectfully, J. D. Poindexter, M.D.,
Capt. and Asst.-Surgeon, U. S. Army.

Deaths and Obituaries.

Jesse W. Lazear, M.D., U.S.A., who died from yellow fever in Quemados, Cuba, September 26, was born in the suburbs of Baltimore, in 1866. He took a course of study and his B. A. degree at Johns Hopkins University, and his M. D. degree with honors at the College of Physicians and Surgeons, New York, 1892. He served as interne for two years in Bellevue Hospital and then went to Germany for a year to pursue special studies in bacteriology. In 1895 he became demonstrator of clinical microscopy in Professor Osler's service, and one of the house physicians at Johns Hopkins hospital until the spring of 1900, when he entered the Medical Department of the Army as acting assistant-surgeon. He was at once assigned to duty at Quemados, Cuba, made a member of the board appointed for the study of yellow fever, and placed in charge of a laboratory at that place. His work since then can be best described by quoting from the letter sent to the surgeon-general of the army, by the chief surgeon, department of western Cuba: "Dr. Lazear has for the past four months exposed himself with absolute fearlessness in the discharge of his duties. He has examined the blood of every case of yellow fever which has occurred at Columbia barracks and in Marionao during that time; has immensely aided in the making of prompt diagnoses, which has been so important an element in our preventing the spread of the disease and in the success of the treatment of our cases. In the investigations of the board he has shown the same courage, earnestness and ability which characterized all his work. Dying at the age of 34, he leaves a wife and two children, the youngest of whom he never saw, as his son was born in the United States while he was in Cuba this summer."

Preston Brown Scott, M.D., died in Louisville, September 24, of typhoid fever contracted while at Mount Clemens, Mich. He was born in Frankfort, September 12, 1832; his father was the first school commissioner in Kentucky, and on his own farm in 1841 erected the first public school, and there Preston Scott, when 9 years of age, became enrolled as the first public-school pupil in Kentucky. He was graduated from Georgetown College in 1849; from the medical department of the University of Louisville in 1856. He settled in Hickman County, Ky., but later removed to Bolivar, Miss. When the war broke out, Dr. Scott was appointed surgeon in the 4th Kentucky Infantry, C.S.A., was promoted to brigade surgeon under Gen. Ben Hardin Helm, and later was transferred as surgeon to the staff of Gen. Jos. E. Johnson at Jackson, Miss. At the conclusion of the war Dr. Scott went to Louisville, where he practiced continuously, enjoying one of the largest general practices in the city. He was possessed of a particularly broad and versatile mind, and kept thoroughly abreast with the times. He was one of the medical directors of the Episcopal orphanage and was physician in charge of the Masonic Widows' and Orphans' Home. At the last meeting of the Confederate veterans in Louisville he was elected president of the Surgeons' Association.

James Hart Curry, M.D., of Shrub Oak, N. Y., where he had been in practice for nearly fifty years, died there September 24. He was born in New York City in 1827 and was graduated in 1852 from Yale Medical College. At the time of his death he was the oldest member of the Westchester County Medical Society, in which he had held every office. During the Civil War he served as surgeon of the 18th N. Y. Volunteer Infantry, and subsequently on the staff of the 5th Division, N.G. S. N. Y.

James Willoughby Phillips, M.D., superintendent of the Burn Brae Sanatorium, Clifton Heights, near Philadelphia, died September 20, aged 53 years. He was born in Montreal, attended the University of Toronto, and afterward studied medicine for three years at Guy's Hospital, London. He obtained his M.R.C.S. in 1874. He came to Philadelphia in 1876, and was a member of the College of Physicians and various medical societies.

Samuel N. Pierce, M.D., a graduate of Vermont Medical College, Woodstock, surgeon of the 13th Iowa Infantry in the Civil War, and one of the oldest physicians as regards length of practice in Iowa, died at Cedar Falls, September 23, from paralysis, aged 68 years.

J. F. Moser, M.D., while burning brush on his farm near Silverton, Ore., was pinned down by a falling tree and burned to death, September 13. He was 44 years of age, a graduate of Willamette University medical department, Salem, and had served as physician at the Warm Springs Indian Agency.

James A. Paddock, M.D., a native of Princeton, Ill., a graduate of Bellevue Hospital Medical College in 1874, one of the pioneer physicians in the Black Hills and surgeon to the Burlington Railroad, died suddenly from apoplexy at his home in Deadwood, S. D., September 16, aged 52 years.

Reuben Swartz, M.D., who died suddenly in Lebanon, Pa., September 16, was born in Hancock in 1842, was graduated from the Medico-Chirurgical College, Philadelphia, and practiced in Myerstown until 1882, when he moved to Lebanon.

Robert F. Forrest, M.D., a native of Watertown, Mass., and a graduate of Harvard Medical School in 1898, died at his home September 18. After his graduation he practiced in Cambridge until last June, when he was obliged to go to Colorado for his health.

W. Scott Wolford, M.D., Philadelphia, died of nephritis after a long illness, September 18, aged 53 years. He was graduated with honors from Jefferson Medical College in 1873, practiced in Philadelphia and was coroner's physician for a time.

Henry B. Wilson, M.D., a native of Boonboro, Md., who had practiced for ten years in Omaha, Neb., died near Aberdeen, Harford County, Maryland, September 20, aged 35 years. He was graduated from the University of Maryland in 1889.

Jesse H. Naftel, M.D., county physician of Montgomery County, Alabama, died suddenly from heart disease at Montgomery, September 17, aged 39. He was graduated from the Medical College of Alabama, Mobile, in 1887.

George A. Breckenridge, M.D., St. Joseph, Mo., who was graduated from the Central Medical College in that city last year, died at his home, south of Stewartsville, Mo., September 19, aged 30.

James R. Powell, M.D., Tipton, Ind., was found dead by the roadside, five miles from his home, September 21. He was graduated from the Central College of Physicians and Surgeons, Indianapolis, in 1894.

J. Herbert Ellis, M.D., one of the successful contestants for an interneship at the Cincinnati Hospital, died at Asheville, N. C., September 25, of pulmonary hemorrhage. He would have entered upon his duties at the hospital October 10.

Thomas Bailey Lewis, M.D., Turnersville, Ky., a graduate of the College of Physicians and Surgeons, New York, in 1859, and surgeon of the 6th Kentucky Cavalry, C. S. A., died from phthisis, September 16.

Otis K. Chamberlin, M.D., who was graduated from Albany Medical College in 1845, died September 20 at Dayton, Ohio, where he had practiced for many years, aged 84.

DEATHS ABROAD.

Prof. Eduard Albert, whose fame as a surgeon, teacher, lecturer and medical writer is world-wide, died in Vienna, September 26, aged 59. He was born in Bohemia, studied in Vienna, became assistant in the surgical clinic in 1867, professor of surgery at Innsbruck in 1873, and in 1881, after the death of Damreicher, assumed the chair of surgery. Students in Vienna used to attend Albert's lectures and Billroth's clinics. As a lecturer he was unsurpassed. His knowledge of the literature was remarkable. Among his pupils are such men as Hochenegg, Lorens, Maydl, C. Ewald, Hobart and Ullmann. He demonstrated before the International Medical Congress in August the architecture of the long bones, showing how their construction is regulated by the same laws that man has laboriously evolved in the architecture of bridges, etc., to ensure support and strength. His "Lehrbuch der Chirurgie" was the first manual to appear inspired by antiseptic principles. His works include several on the history of medicine and surgery, and on the treatment of various surgical affections. Among his contributions to science may be mentioned his artificial ankylosis for flail-joints, tenopexis, osteoplastic method of neurectomy of the mandibularis, and arthrectomy synovialis. He was the first to make a transplantation of the nerves on man, and to call attention to sciatic scoliosis and to painful papilloma of the tongue.

Dr. J. A. de los Rios, professor of therapeutics, died at Lima, Peru, July 25. He was president of the Medical "Union Fernandina" and formerly editor of *La Cronica Medica.*

Miscellany.

MARINE-HOSPITAL NOTES.

IMMIGRATION STATION AT HAVANA.

The prevalence of yellow fever in Havana this summer, mainly among recent non-immune arrivals, has suggested to the Governor-General of Cuba the advisability of establishing a camp outside of the city of Havana where non-immune immigrants may be detained pending their distribution among the plantations of the island, thereby avoiding contact with infected foci in the city of Havana. A board has already been appointed for the purpose of carrying this idea into effect. The site recommended by the board is on the hills some distance back of Triscornia, a place across the harbor from Havana proper. Large, comfortable and well-arranged barracks are to be built. On arrival of a vessel with immigrants, she will be boarded and inspected as usual by a medical officer of the Marine-Hospital Service, and then all immigrants not disqualified at this inspection will be sent to Triscornia and from there passed on to the immigration station. There the immigrants will be cared for until they can be safely transported to the country districts. Heretofore these immigrants have entered the city of Havana and lived sometimes for weeks in the overcrowded and infected districts while awaiting employment. It is contemplated that a medical officer of the Marine-Hospital Service will be detailed in charge of this immigration station.

THE GALVESTON FLOOD.

Surgeon Peckham, in charge of the Marine-Hospital Service at Galveston, Tex., has written an interesting report on the tornado, detailing the facts, which are corroborative of the press dispatches. He places the loss of life at more than five thousand, and states that 500 dead bodies drifted ashore at Virginia Point. He has been nearly over the island and has not seen a house that was not damaged. The aerometer at the weather bureau broke down when eighty-four miles an hour was reached, and it is estimated that 100 miles an hour was the velocity of the wind at one time. Water was over the whole island; at the highest point of the island the water was 5 feet deep. At the house where he boarded the water was 7 feet deep. He was instrumental in saving seventeen persons, and, immdiately after the storm, began the work of furnishing surgical relief. At the request of the local board of health, Surgeon Peckham established two camps intended for the care of sick and homeless, and had to assist him P. A. Surgeon Wertenbaker, Sanitary Inspector Lea Hume and Hospital Steward Peck. The material for the camps was taken from the contributions so generously sent in. It is understood that they are now used simply as refuge camps under the local authorities.

STATUS OF BUBONIC PLAGUE IN GLASGOW.

The latest reports received from the medical officer of the Marine-Hospital Service on duty in Glasgow show that there have been a total of thirteen cases to September 7. There have also been one or two cases in the suburbs of Govan. The authorities have defined a wide area about the houses where the original cases occurred and special sanitary supervision is exercised inside of this line. The infected premises have been cleaned, fumigated with sulphur and the walls and floors washed with carbolic acid solution and whitewashed. All infected clothing and bedding has been steamed or destroyed. The medical officer and his assistant have been inoculated with Yersin serum, as they have been exposed to the disease. They are inspecting all vessels, their cargoes and passengers leaving for the United States or Canada. Dr. Thomas states that the crews are the most dangerous and difficult feature, but that every facility is being given by the officers of the various vessels in their inspection and in all the precautionary measures.

Suturing the Sigmoid Flexure to the Bladder in Gynecologic Operations.—There are no means of covering the raw surfaces left after removal of extensive portion of the peritoneum in certain operations on the small pelvis. Amann stated at the International Medical Congress that he remedies this by drawing forward the sigmoid flexure and fastening it to the posterior surface of the bladder. The meso-colon is thus stretched across above the small pelvis, completely isolating the field of operation from the large abdominal cavity. Supplemented by drainage into the vagina it enables the peritoneum to be resected with comparative impunity. The procedure is harmless, with no inconveniences of any kind, and is proving a new and valuable resource in pelvic surgery, as Jonnesco confirmed from his experience.

Therapeutics.

Carbolic Acid in Mastoiditis.

W. C. Phillips, in *Med. Record,* states that he has found carbolic acid to be without a peer in treatment of suppurative conditions about the ear. He applies it with a cotton swab or with an atomizer, and permits it to remain for thirty or sixty seconds and neutralizes it with alcohol. With this treatment unhealthy granulations become normal, the discharge ceases and often operations are avoided.

—*Med. Progress.*

Epithelioma (Cutaneous).

℞. Orthoformi	ʒi	4	
Acidi arsenosi	ʒi	4	
Alcoholis	℥v	160	
Aquæ destil.	℥v	160	

M. Sig. As a local application.

The above combination is recommended by Ginestoux in the *Philadelphia Medical Journal.* The orthoform possesses marked anesthetic properties.

Colorless Iodin Ointment.

℞. Iodi	gr. xx	1	33
Potassii iodidi	gr. iv		25
Aquæ destil	m. vi		36
Adipis	℥i	32	
Sodii sulphitis	gr. xl	2	66

M. First rub the chemicals with the water till colorless, then add the lard. Sig. Use as a local application. —*Ex.*

Cholera Morbus.

R. Acidi carbolici	gr. viii		48
Glycerini	ʒv	20	
Tinct. opii camphoratæ	℥ii	64	
Aquæ cinnamomi	℥iii	96	

M. Sig. One teaspoonful after each movement for an adult.

—*Med. News.*

℞. Acidi sulphurici aromatici	ʒii	8	
Extracti hematox. fluidi	ʒii	8	
Spts. chloroformi	℥ss	16	
Syrupi zingiberis, q. s. ad	℥iii	96	

M. Sig. Teaspoonful every two hours.

—Hare: *Texas Med. Jour.*

Convulsions in Children.

℞. Moschi	gr ii		12
Chloralis hydratis	gr. ivss		30
Camphoræ	gr. xv	1	
Yolk of egg	ʒiiss	10	
Aquæ	℥iii	96	

M. Sig. As an enema when the child is unable to take treatment by the mouth. J. Simon: *Med. Record.*

Hyperhidrosis.

℞. Tinct. belladonnæ	ʒi	4	
Eau de cologne	℥i	32	

M. Sig. Mix a few drops with a little vaselin and rub into the skin freely, after washing with soap and water.

Dysentery—To Relieve Tenesmus.

R. Tinct. nucis vomicæ			
Liq. potassii arsenitis			
Tinct. opii, āā	ʒi	4	

M. Sig. Two or three drops every hour or two in a tablespoonful of hot water.

—Geo. H. Chandler: *Med. Summary.*

Puerperal Convulsions.

℞. Potassii bromidi	ʒiii	12	
Potassii iodidi	gr x		60
Syr. tolutani			
Aquæ destil, āā	℥ii	64	

M. Sig. One tablespoonful three times a day.

—Benjamın.

Acute Alcoholic Delirium.

R. Chloralamid	gr. xv	1	
Hyoscinæ hydrobromatis	gr. 1/100		0006

M. Sig. At one dose. —D. R. Brower.

Hematemesis.

The *Medical Record* advises the following:

Rest in bed, hypodermic injection of ergotin over the epigastrium and ice locally to the same region. Internally, give opium, 1 or 2 grains, and the following mixture:

℞. Ergotin	ʒi	4	
Acidi gallici	gr. x		66
Ext. opii	gr. ii		12
Syr. terebinthinæ	℥i	32	
Aquæ destil.	℥iv	128	

M. Sig. One teaspoonful every two hours.

In cases of syncope, employ horizontal decubitus, injections of ether, flagellations, mustard leaves to legs. If perforation of stomach occurs, with resulting peritonitis, give morphin hypodermically. —*Exchange.*

Rebellious Chilblains.

℞. Sol. plumbi subacetatis			
Tinct. sodii iodidi			
Tinct. opii, āā	m. xx	1	33
Amyli	ʒss	2	
Glycerini	ʒv	20	

M. As a local application. —*Exchange.*

Removal of Superficial Epithelioma.

℞. Wheat flour			
Pulveris amyli, āā	℥ii	64	
Acidi arsenosi	gr. xv	1	
Cinnebar (hydrarg. sulphid)			
Ammonii chloridi			
Hydrargyri chloridi corros, āā	gr. lxxv	5	
Solutionis zinci chloridi	℥viii	256	

Rub each ingredient separately, and then together in an earthen vessel and finally add the solution of zinc chlorid drop by drop.

The above paste is by Bougard, and is said to be superior to Marsden's preparation for the removal of superficial epithelioma. —*Am. Jour. of Surg. and Gyn.*

Mumps—Parotitis.

℞. Icthyolici			
Plumbi iodidi, āā	gr. xlv	3	
Ammonii chloridi	gr. xxx	2	
Adipis	℥i	32	

M. Sig. Apply to the parotid gland three times a day.

—*Interstate Med. Journal.*

Scabies and Prurigo.

℞. Epicarin	ʒii	8	
Cretæ alb.	gr. xxx	2	
Vaselini alb	℥i	32	
Lanolini	℥ss	16	
Adipis	℥iss	48	

Pfeiffenberger, in *Klin. Ther. Woch.,* recommends the above containing epicarin in treatment of scabies and prurigo in children. —*Therapist.*

Lotion for Burns.

Dr. Nikolsky, in *Journal de Méd. de Paris,* recommends the following:

℞. Acidi tannici			
Alcoholis, āā	ʒii	8	
Etheris sulphurici	℥ii	64	

M. Sig. Use as a local application.

—*N. Y. Med. Journal.*

Goiter.

℞. Hydrarg iodidi rubri	gr. x		06
Atropinæ sulphatis	gr. ss		03
Unguenti simplicis	℥i	32	

M. Sig. A piece the size of a pea to be well rubbed into the skin over the tumor two or three mornings in succession, and then repeated once a week. —*Alk. Clinic.*

Lumbago.

℞. Linimenti camphoræ	ʒxii	48	
Olei terebinthinæ	ʒii	8	
Saponis mollis puræ	ʒiv	16	

M. Sig. Rub the parts well night and morning.

—Gould and Pyle.

Ringworm of the Scalp.

The following outline for treatment of ringworm is laid out by Jamieson, in the *Edinburgh Med. Jour.*:

1. Shave the hair from the scalp.
2. Keep the scalp clean by washing twice a day with soap and warm water.
3. Apply the following ointment:

℞.	Sulphuris precip.			
	Acidi salicylici			
	Betanaphtholi			
	Hydrargyri ammoniati, āā	gr. x		66
	Lanolini, q. s.	℥i	32	

M. Sig. To be rubbed into the scalp thoroughly twice a day.

—*Exchange.*

Rheumatoid Arthritis.

According to *La Presse Médicale,* Dr. Mussey employs the following ointment, with asserted good results:

℞.	Ext. belladonnæ			
	Ext. hyoscyami			
	Ext. conii			
	Ext. opii, āā	gr. xv	1	
	Adipis	℥ii	64	

M. Sig. Apply locally night and morning.

—*Ther. Gazette.*

Emetic for Children.

℞.	Pulv. ipecacuanhæ	gr. viiss		5
	Antimonii et potassii tartratis	gr 1/6		01
	Aquæ destil., q. s. ad	℥i	32	

M. Sig. One teaspoonful every ten minutes until vomiting is produced.

Shingles—Herpes Zoster.

℞.	Ichthyolici			
	Magnesii carbonatis			
	Zinci oxidi, āā	ʒii	8	
	Aquæ destil., q. s. ad	℥iv	128	

M. Sig. Spread over the affected part and cover with a *bandage.*

Ichthyol—5 per cent.—in collodion may be used, and where rheumatism is present the salicylates may be given in large doses.

—Lusk: *Postgraduate.*

Loss of Hair.

Baril, in *Jour. de Méd. de Paris,* recommends the following application for the arrest of the falling of hair:

℞.	Acidi hydrochlorici	m. lxxv	5	
	Alcoholis	℥v	160	

M. Rub the scalp well every night with the solution.

—*N. Y. Med. Journal.*

Constipation in Women.

Lutaud, in *Journal de Méd. de Paris,* recommends the following for constipation in women:

R.	Res. podophylli	gr. xxv	1	66
	Euonymin	gr. v		33
	Ext. belladonnæ	gr. x		66
	Ext. hamamelidis	gr. xx	1	33
	Saponis	gr. xxx	2	

M. et ft. pillulæ No. 50. Sig. Take one or two pills after the evening meal.

—*Ther. Gazette.*

Glycerin in Fever Mixture.

The *Clinica Moderna* recommends the following mixture as beneficial in allaying thirst and fever:

℞.	Glycerini puri	ʒviiss	30	
	Acidi citrici	ʒss	2	
	Aquæ destil., q. s. ad	ʒxxv	100	

M. Sig. One to two tablespoonfuls at one dose to allay thirst and fever.

Chronic Eczema of the Hands.

℞.	Iodi	gr. iss		1
	Potassii iodidi	gr. iv		25
	Glycerini	ʒiii	12	

M. Sig. Apply the paint to the hands every evening and then envelop them in lint.

Edelfsen, in *New Eng. Med. Monthly,* states that he has adopted this treatment with success where other remedies have failed. The irritation is always relieved and a cure effected in about two weeks. In more obstinate cases he uses a boric-acid ointment applied in the morning and the above combination in the evening.

—*Am. Jour. Surg. and Gyn.*

Nutrient Enema.

The *Medical Sentinel,* in commenting on treatment of ulcer of stomach, states that the best treatment consists of complete rest in bed, no food by the mouth, and that the nourishment should be given entirely by the rectum. The enemata should be administered four hours apart, first cleansing the bowel with an enema of warm water by means of a high injection. The following formula is recommended by J. B. Herrick:

℞.	Somatose	ʒi	4
	Egg—one-half		
	Sodii chloridi—small amount		
	Spts, frumenti	ʒi	4

M. Sig. At one feeding per rectum.

Medicolegal.

Insane Person's Estate Liable for Necessaries.—The Court of Appeals of Kansas holds, in Palmer vs. Hudson River State Hospital, that, to charge the estate of an insane person with the expense of maintenance and for necessaries furnished, it is not requisite that there be an express promise to pay therefor, either by the insane person or guardian. In other words, it holds that the estate of an insane person is liable for necessaries furnished him upon an implied contract. Nor does it consider that any statute is necessary to create a liability on his part, binding his estate, for such benefits received by him. Besides this, it holds that where an insane married woman was a citizen of Kansas, where her husband and children were domiciled, who were able to support her, as it was their duty to do, and she went on a visit to relatives in New York, where she was admitted to a hospital as an indigent insane person, it was the duty of the agents of the hospital, on discovering that they had been providing an asylum for a person not entitled thereto as a lawful right, and that the recipient was able to refund to the state its expense therein, to sue, in the name of the hospital, to recover it.

Not Authorized to Burn Buildings for Smallpox.—In Prichard vs. Commissioners of Morganton, brought to recover for the burning of a dwelling as a health precaution, the Supreme Court of North Carolina holds that the board of commissioners of the county, as representing officially the county, were not liable, for the reason that there was no statute making them so, either expressly or by necessary implication. And the town commissioners, as representing the town community, it holds, were not liable: first, because the act complained of was for the interest of the state at large; and, second, because they unreasonably exceeded the powers conferred on them. True, the town charter authorized them to take such measures as they might deem effectual to prevent the entrance into the town, or the spread therein, of any contagious or infectious diseases; and under these powers they were permitted to cause to be destroyed or disinfected such furniture or other articles as should be believed to be tainted or infected with any contagious or infectious diseases, or which there should be reasonable cause to apprehend would generate or propagate diseases, and might take all other reasonable steps to preserve the public health, and for this purpose might use any money in the treasury. But, as the court construes it, that was no authority to burn or destroy any house or residence. Neither does it see the necessary authority in a statute providing that in cases where the county superintendent of health declared that a nuisance existed, it should be removed or abated at the expense of the town, city, or county, in case of the offender's inability to remove it, though the expense should not exceed $100, particularly when the superintendent had not acted in the matter. Nor does it see authority to burn a dwelling in a statute conferring on boards of county commissioners power to make rules, regulations and by-laws for preventing the spread of contagious and infectious diseases.

A proper disinfection, it thinks, would be the extent of their powers in respect to property thus tainted or infected.

Must Take What Charitable Hospitals Have to Give.—The United States Circuit Court lays down the rule, in the case of Powers vs. the Massachusetts Homeopathic Hospital, that a beneficiary of a charitable corporation, as for example a patient in a hospital which is chartered or must be legally classed as a charitable institution, must take its bounty for what it is worth. In other words, it holds that no person who accepts the bounty of any charity, can maintain a suit on account of the method of the administration of the bounty which is accepted. It declares it absolutely inconsistent with the underlying idea of charities as recognized by the law, to hold that the same rule that applies to a person or institution employed for compensation to do a certain service applies to the distribution of charity. In its view, the person who enters a charitable hospital is not a contractor; neither is the hospital a contractor with that person. The person who enters is a mere licensee, like a guest who enters one's house, and who must take the service as he finds it. Assume that a stranger enters one's house, and is suddenly taken with a severe sickness. Can such householder, it is asked, be held responsible for the selection of an incompetent surgeon or physician, or for neglect on the part of a servant, with reference to the care of that person? He can not, it is answered, have higher rights than a member of the household of which he has for the time being become, as it were, a part. All he is entitled to is not to be led into a danger known to his host, and not known or reasonably apparent to himself. That, the court holds, is the precise rule that applies to a public charity. And, in this respect, it holds, private charity and public charity rest on exactly the same ground, and there is no basis in either case to hold that the person who receives bounty is a contractor, a person contracting for service, as one engages service when he ordinarily employs a surgeon. He is, in law, only a licensee. Nor does the court consider that the reception—the frequent reception—of money from patients changes the nature of the institution; and the following out of this proposition it says necessarily leads to the conclusion that the reception of money from any particular patient does not change the nature of the service rendered that patient, so far as anything said here is concerned. It looks at the money paid in such a case as a proper contribution to a charity on the part of the person who makes the payment and receives the benefit of the charity. It is not compensation in the sense of the law. Furthermore, the court holds that the officers of a charitable corporation have no power by contract to impose any liability beyond that which the law raises. If it is unsuitably or carelessly managed, the remedy is in the hands of the state. So, for the reasons adduced, it holds the hospital here sued not liable for an injury alleged to have occurred to a patient through the neglect of a nurse, even if it was a "pay" patient, it being, in law, a charitable corporation.

Injured Person's Duty to Employ Physician.—Texas & Pacific Railway Company vs. White is the title, in the United States Circuit Court of Appeals, Fifth circuit, of an action that was instituted by the latter party to recover damages for personal injuries alleged to have been sustained by him while a passenger on this company's railroad, through the negligence of its servants. He averred that he received a serious injury in the abdomen, resulting in causing him great pain and in producing a serious and painful disease of his bowels and sharp, severe and continuing pain in his spine or back, and in producing varicocele. But, for reasons which he afterward endeavored to satisfactorily explain, he did not at any time mention the fact of his having been hurt to any of the servants of the company. Besides, he proceeded on his journey with his car of cattle, which he was accompanying, riding on the top of that car part of the way, and even assisted in driving the cattle from the railroad to the ranch, traveling on foot a distance of thirty-seven miles, after which he did more walking, and some railway traveling. Nor did he, during the ten days thus consumed, before he reached home, employ a physician, his explanation thereof being that he had hopes of wearing it out, and that it would pass off, and that he wanted to get back home where he could get his family physician. It should, perhaps, be added that a man who was on the train at the time of the alleged accident testified that the party claiming injury spoke to him about it, and showed him a bruised place on his side. On the trial, the judge who presided recognized the settled doctrine that it was the plaintiff's duty to use reasonable care not to aggravate, or suffer to be aggravated, so far as he could prevent it, the injury which he had received. Continuing, the court of appeals says that the application of this doctrine to the subject of the plaintiff's failure to promptly obtain professional medical and surgical assistance is not very clearly shown by the adjudged cases or text-writers, so far as it has been able to examine. Here the injured party believed that the exigency of his business required him to continue his journey with his cattle, and to continue his care of them until they reached the ranch, and, the court says, it was not unnatural or unreasonable that he should hesitate to employ physicians who were strangers to him while he could endure the suffering he experienced until he could reach home, to have the advice and attention of his family physician. It goes on to state, however, that, while these reasons for his action commended themselves to its experience and sympathy, yet if therefrom an aggravation of his injury resulted, from his active attention to his business or from his failure to obtain the advice and aid of competent physicians who were accessible, such aggravation, whether it resulted from his active exertion, or from his neglect or failure to obtain the needed medical or surgical assistance, could not, in justice, be charged against the railway company in addition to its liability for the original injury to the extent of the damage it necessarily caused. And it holds that it was as incumbent on him to procure the advice of a competent physician and surgeon, if accessible, as it was to refrain from such physical exertion as tended to aggravate his injury. There being proof tending to show that a part of the trouble could have been speedily cured, at a small expense and without hazard, by prompt proper surgical treatment, it holds that it was for the jury to say whether the conditions required a surgical operation, as also to determine the issues of fact raised by conflicting evidence as to the existence, nature, extent and likelihood of relieving the other troubles. Then, it says that, from the nature of the case, opinion testimony must be relied on, but in considering opinion or expert testimony the opinion of the jury is the chief factor in reaching ultimate conclusions.

Societies.

Coming Meetings.

Wyoming State Medical Society, Cheyenne, Oct. 9-10.
Mississippi Valley Medical Association, Asheville, N. C., Oct. 9-11.
Iowa State Association of Railway Surgeons, Des Moines, Oct. 11-12.
Vermont State Medical Society, Rutland, Oct. 11-12.
Tri-State Medical Society of Alabama, Georgia and Tennessee, Chattanooga, Tenn., Oct. 11-13.
New York State Medical Association, New York City, Oct. 16-18.
American Public Health Association, Indianapolis, Ind., Oct. 22-26.
Medical Society of Virginia, Charlottesville, Oct. 23.
Southern Surgical and Gynecological Association, Atlanta, Ga., Nov. 13-15.
Oklahoma Territory Medical Society, Oklahoma City, Nov. 15.
The Tri-State Medical Association of Mississippi, Arkansas and Tennessee, Memphis, Nov. 13-15.

THE JACKSONVILLE (Ill.) MEDICAL SOCIETY held a meeting September 15, at which Dr. Frank P. Norbury read a paper on "The Progress of Therapeutics."

THE TRI-STATE MEDICAL SOCIETY OF ALABAMA, GEORGIA AND TENNESSEE will hold its twelfth annual meeting in Chattanooga, Tenn., October 11, 12 and 13, immediately after the close of the Asheville meeting of the Mississippi Valley Medical Society. A rate of one fare or one and one-third fares, on the certificate plan, has been made for the meeting.

The San Jose (Cal.) Medical Association met on September 20, when Dr. James R. Curnow presented a paper on "Epilepsy," which was followed by a spirited discussion.

The Skagit County (Wash.) Medical Society effected a temporary organization September 13, at Burlington, with the following officers: Dr. M. B. Mattice, Sedro-Woolley, chairman, and Dr. Charles C. Harbaugh, Sedro-Woolley, secretary.

The Vanderburgh Medical Society met at Evansville, Ind., September 18, and listened to a paper by Dr. Jacob H. Keith, in which he discussed the food-supply of Evansville, commending the meats, but condemning much of the milk.

The Hartford (Conn.) Medical Society held its first fall session September 16, Dr. John F. Dowling in the chair. Dr. Arthur J. Wolff exhibited the new substance, "urein" (described in The Journal, xxxv, p. 711). Dr. Joseph E. Root presented a specimen of tumor and Drs. Michael A. Bailey and M. M. Johnson made reports as delegates to The American Medical Association.

The Lycoming County (Pa.) Medical Society met at the Williamsport Hospital, September 14. Dr. E. Roy Gustin, Williamsport, read a paper on "Skin Diseases"; Dr. Charles M. Heberton, Hughesville, spoke on "Poisons"; Drs. John A. Klump, Williamsport, and Joseph W. Albright, Muncy, discussed "The Treatment of Shock," and Dr. Charles E. Thomson, Scranton, considered "The Treatment of Congenital Club-Foot."

The Delaware County (Pa.) Medical Society held its regular meeting September 13 at Chester, Dr. H. Gallagher, Glenolden, in the chair. Dr. Robert S. Maison, Chester, spoke at length of the epidemic of typhoid fever at Trainer. He considered the epidemic due solely to milk from one dairy, the proprietor of which was himself ill with the disease. Drs. Samuel D. Risley, Media, and Samuel Trimble, Lima, reported cases, and Dr. William B. Ulrich, Chester, gave a description of Galveston Island.

The Santa Fe Railway Medical and Surgical Society held a special meeting in Colorado Springs, Colo., September 26. Papers were read by Dr. Charles G. Elliott, Blackwell, Okla., on "The Modified Form of Smallpox"; Dr. Luther D. Jacobs, Emporia, Kan., on "Infusion of Normal Saline Solution in Shock Without the Accompaniment of Hemorrhage"; Dr. J. Frank Connell, Las Cruces, N. M., on "Canodol as a Detergent in Surgery"; Dr. E. B. Shaw, Las Vegas, N. M., on "Typhoid Fever and Its Treatment," and Dr. George R. Highsmith, Carrollton, Mo., on "Trauma an Etiologic Factor in Tuberculosis of Bones and Joints."

The Central Wisconsin Medical Society held its quarterly meeting at Janesville, September 12, with an attendance of about one hundred, President Dr. John M. Evans, Evansville, in the chair. Papers were read by Dr. Lewis F. Bennett, Beloit, on "Fractures of the Condyles of the Humerus"; Dr. William E. Dold, Lake Geneva, on "Suggestions for the General Practitioner Concerning Certain Forms of Insanity"; Dr. John E. Allaben, Rockford, Ill., on "Treatment of Inoperable Sarcomas With Mixed Toxins of Erysipelas and Bacillus Prodigiosus"; Dr. Lawrence H. Prince, Palmyra, on "Anesthetics"; Dr. Samuel Moyer, Monroe, on "Appendicitis and the Country Doctor"; Dr. Thomas W. Nuzum, Brodhead, on the converse "The Country Doctor and Appendicitis," and Dr. Arthur C. Helm, Beloit, on "Who Shall Operate." Dr. John F. Pember, Janesville, reported a case of pyonephrosis. At the banquet, held between the sessions, Dr. James Mills, Janesville, was toastmaster.

The Detroit Medical and Library Association held a regular meeting September 17, at which Dr. Henry R. Varney read a paper entitled "Treatment of Lupus." Excision has been used with good results, but is objectionable when the lesions are on the face. The most satisfactory treatment is curettage. With the common dermal curette one is able to distinguish, with but little experience, the healthy tissue from the broken-down, cheesy degeneration of the tubercle. Freezing mixtures should not be employed. Linear scarification is slow and objectionable. Electrolysis as advocated by Dr. Jackson is satisfactory, the effect of the electricity on the tubercle nodule is two-fold, the heat destroys the germs and the electricity stimulates cell change. Mechanical measures consist of caustics and caustic pastes. Nitrate of silver stands first as a caustic. It penetrates and destroys the isolated tubercle, but spares healthy tissue. Arsenical pastes act more quickly than silver nitrate, but are more painful and can be applied only to small areas. The stronger acids, with the exception of pyrogallic acid, are objectionable, as they destroy all tissues. A comparatively new treatment for lupus is the X-ray exposure. Dr. W. A. Pusey, Chicago, discovered that a number of exposures would blanch the hair, stimulate nutrition of chronic indurated lesions, reduce inflammation and destroy the hair bulb. On these observations the treatment of chronic skin affections is based. Treatment is painless, the exposures are short in duration, the area can be controlled and there is no scarring, but its antiseptic power is as yet unsettled.

Medical Society of the Missouri Valley.

Annual Meeting, Council Bluffs, Ia., September 20, 1900.

GOAT'S LYMPH.

Dr. T. L. Putnam read a paper on this subject. He described its preparation, composition and uses, and spoke of its use in his hands.

The discussion was most extraordinary. Dr. Macrae thought that Dr. Putnam had been deceived. The lymph was a good thing to quack with, but it was by no means new, Dr. Brown-Séquard having brought it out years ago. It had been used by thousands of French, German and American physicians, who had found such lymph utterly useless; and it had been again introduced by an insignificant Missouri doctor, exploited by a company organized by a Chicago doctor in the most mercenary manner, of which he personally knew, because they had tried to work him for $30 a month for the good-will of the thing.

Dr. C. B. Wallace, St. Joseph, felt that it was very unfortunate that such a paper had been read, that it came originally from the degenerate mind of Brown-Séquard.

Dr. B. B. Davis was sorry the paper had been read. The society could not go on record as encouraging such a preparation, and protested against it.

CONTUSION OF THE BRAIN.

Dr. J. Cameron Anderson read this paper. It was a plea for more careful study of cases of contusion, pure and simple, without fracture. He related the symptoms in detail and cited two interesting cases. The first was completely unconscious for four days, and partially so for two more. The second was totally unconscious for eight days, and partially so for sixteen more. Somewhat later there was great improvement in the mentality, which soon became clear, but without memory of recent past events. He had received the best results in treatment from the use of cathartics, then laxatives, medicines which were vasomotor dilators, and liquid diet; also from the use of the iodids.

Dr. B. B. Davis was of the opinion that cases of concussion are rare, those of contusion frequent; the injuries from concussion are usually minor, those from contusion are often serious, delayed and their general results permanent. The prognosis should be very guarded.

Dr. C. C. Allison felt that cases of pure contusion gave a very narrow field clinically; uncomplicated cases were very rare. Hemorrhage and fracture were much more often seen. Contusion affected the blood-vessels, because they were not well supported; small extravasations were present; often a laceration, which added to the shock.

Dr. Anderson, in closing, said that in contusion there was always a laceration of the vessels; the medulla was greatly damaged. The character of the heart's action and the respiration showed the damage. Many cases supposed to be fractures were not, and the trephine proved it.

CANCER OF THE UTERUS.

Dr. B. B. Davis made a strong plea for the education of the women of the country to the necessity of a knowledge of their condition after child-birth, as to laceration of the cervix, etc. They should be taught the danger of leucorrhea, erosions, lacerations, irregular hemorrhages, and especially when occurring between 40 and 50. While most tears heal, they are too often a source of irritation and tend to malignancy. Nulliparous women often suffer from erosions, and these need care as well as the multipara. Cancer is always local at first, and early clean removal entirely eradicates it. No recurrence takes place. Early knowledge is imperative. Physicians are seriously to blame when they do not insist on an examination, and when they make light of the symptoms present.

Dr. M. F. Weymann urged greater care on the part of physicians in the preparation of specimens to be sent to the microscopist.

Dr. Daniel Morton said that he never failed to investigate all cases of irregular hemorrhage, and especially in women between 40 and 50 years of age. He felt that the profession was much to blame for neglect in this matter. He was very careful to treat in the most thoughtful manner those patients doomed to death because too late for operation.

Dr. C. B. Wallace made a strong plea for all practitioners to make more careful examinations.

Dr. J. M. Knott said that he had been repairing cervices for many years and had been on the watch for early cases of cancer, but had never seen one; he had had the misfortune to always see them when inoperable. Not one of his cases that were operated on had ever developed cancer to his knowledge.

STAB WOUNDS OF THE LIVER.

Dr. Daniel Morton, St. Joseph, reported a case of a man who had been stabbed over the liver. The external wound had been sewed up and patient sent home. Grave symptoms coming on, he sent to Dr. Morton, who opened up the wound. At this time shock was profound, jactitation present, heart feeble and internal bleeding certainly indicated by the conditions. On cutting the sutures the bleeding was profuse and welled up from beneath the liver. The wound was felt under the lower surface of the liver; five yards of 2-inch iodoform gauze were crowded beneath the liver and the hemorrhage ceased. A gallon of clots was removed; coffee and salines were freely used. In twenty-four hours the man was out of danger; the gauze was removed, a yard at a time each day after the third, and recovery took place. He was much impressed with the value of hypodermoclysis in such cases.

CONTUSIONS OF THE EYE WITH HEMORRHAGE INTO AQUEOUS.

Dr. M. F. Weymann made a report on four cases of trauma, two being from a stick striking the eye and one from a ball ricochetting and striking the eye. In these cases glaucoma and iritis were almost certain. In some of them the lens was dislocated. As regards the treatment, drawing off the blood is not practical; atropin is demanded. Glaucoma is best relieved by the knife and hot compresses are very useful. The prognosis should be very guarded until the clot disappears, as synechiæ, iridocyclitis and cataract are often produced.

MARCY-BASSINI OPERATION FOR INGUINAL HERNIA.

Dr. C. B. Wallace said the restoration of the normal obliquity of the inguinal canal was taught by Marcy, of Boston, long before it was by Bassini, and yet the operation is commonly known as the Bassini operation. He felt that Marcy's name should be associated with Bassini's in the name of the operation. This restoration, the isolation of the sac and the suture of the transversalis and internal oblique to Poupart's ligament are universally followed. He is strongly in favor of isolation of the sac by dissection from its neck to its extremity, rather than the reverse, as is often done.

Dr. B. B. Davis expressed himself as happy in the thought that herniotomy was not a destructive operation, but one in which the patient's condition was radically improved as regards comfort and great danger prevented. He now used the original Bassini method more than formerly. He never saved the sac, as done by Macewen and Kocher, but ligates and cuts it off. For a long time he used the Marcy tendon, but now uses the chromicised catgut. He thinks that surgeons tie the sutures too tightly sometimes; if the tension is too great he ties loosely and uses more sutures. In his experience patients who have the injection treatment have adherent omentum. He dresses children with cotton and iodoform-collodion, not reinforced. He condemns the Halsted method.

Dr. Morton feels less and less sure of his results with the Bassini method, has had some recurrences, and uses silk-worm gut for suture.

SARCOMA OF THE KIDNEY.

Dr. Arnold Jolly said it was the most frequent tumor seen, often congenital and rapid in its course. The symptoms are swelling, hematuria in about one-half of the cases, pain in about one-fourth the cases, with jaundice and nervous condition.

Dr. Jonas said that a few words could cover all that was needed to be said. All reports are discouraging; shock of operation is very great; especially if the operation is done on the left kidney death is certain.

CASE OF DOUBLE URETER.

Dr. J. E. Summers, Jr., Omaha, said the condition is rare. It may be found on both sides or on but one, usually on the left. Two pelves, not connected, are usually found; the ureters may join or may enter the bladder separately. He has seen one double case, each of the four ureters entering the bladder separately. His own case was one of double ureter on the left side. Patient was a girl of 2½ years. The child had been troubled for a long period with irritability of the bladder, and had wet the bed at night. Tubercle bacilli were found in the urine. On laying bare the left kidney a most puzzling condition was found. A tube, soft, collapsible, almost as large as an intestine, was seen; examination showed it to be a ureter of tuberculous character. Further examination showed the other ureter, normal in size; there were two pelves. The kidney was plainly tuberculous. He removed the kidney, cutting off the enlarged ureter close down to the pelvic brim, and the other near the kidney. The ureters entered the bladder separately. Recovery from the operation was uneventful; irritability of the bladder persisted, however, and fewer bacilli were found as the child recovered. Urotropin and methyl blue were found very useful for the irritability. He desired to impress the society with the importance of the necessity of proving the presence and condition of the supposed sound kidney in all cases requiring a nephrectomy. He makes a button-hole incision and palpates the kidney.

THE MASTOID SEASON OF 1900.

Dr. Harold Gifford stated that the season of 1900 has been more productive of mastoid troubles than he had ever seen before. Those patients who begin with simple middle-ear trouble do not reach the specialist until late spring or early summer. He related the case of a physician who developed ear trouble. Instead of coming and undergoing treatment, he kept on with his hard country work, driving many miles daily, for a month. Dr. Gifford operated on both mastoids; pus was found, and he seemed better, but relapsed. Two days later he was operated on again. No communication was made with the subdural space. Aphasia followed, and later delirium. The conditions seemed to point to a cerebral abscess in his judgment and that of two surgical consultants. He opened again over the temporo-sphenoidal, but no pus was found. Death took place the next day. The autopsy showed no abscess anywhere, no pus between dura and skull, nor exudate. It was a serous meningitis, infection passing through the superior and posterior mastoid cells. He has reached the conclusion that many mastoid cases present neither tenderness nor swelling over the mastoid, and yet mastoid disease is present. He makes it a rule that, with or without the ordinary symptoms of mastoid disease, if no improvement takes place in two weeks, to operate. He regards the presence of discharge and sleeplessness alone as showing the necessity for operation.

Dr. Stone related the history of a patient [illegible] ho
double mastoid disease; she was under [illegible]
and Dr. Gifford in consultation for three [illegible]
observation could discover no symptom

when operation was done. Pus was found on both sides, although the patient had talked apparently clearly up to the day of operation.

Dr. Weymann felt that mastoid pain, tenderness and confusion of intellect were sufficient grounds for operation.

Dr. Lord thought that the leucocyte count gave the best possible guide for operation. In mastoid cases requiring operation it ran from very low to very high.

THE TREATMENT OF FEVER IN INFANTS.

Dr. H. M. McClanahan read this interesting and useful paper, which was a plea for greater care and less medicine in the treatment of such a condition. Many are much overtreated. The degree of fever alone is not to be considered, as its continuance is of greater importance. He advises against the new remedies designed to reduce fever, and much prefers the old ones; he uses cold and thinks the method of prime importance. He avoids scaring the children by having them placed on the mother's lap on a rubber sheet. He irrigates the intestinal canal through a No. 8 or 10 catheter, with the fountain syringe about 4 feet high; uses warm water first, then cool, then cold, and gets a half-pint of the cold in the bowel and leaves it there. He also uses the wet pack, first warm, then cool, then cold, and rubs the body while wet. In convulsions use cold to the head and heat to the feet. Food is often withdrawn for hours; it sometimes acts as an irritant. He seldom uses drugs; phenacetin is his favorite when one is needed—one grain an hour. He gives chloral in the rectum—½ grain for a child of 6 months, a very valuable remedy when there is great restlessness. When the urine is high-colored and very acid he finds that the citrate of potash is most valuable, and uses large doses well diluted.

The Society voted to send $25 to the Rush Monument Fund.

The following officers were elected: President, Dr. V. L. Treynor, Council Bluffs; first vice-president, Dr. B. B. Davis, Omaha; second vice-president, Dr. F. E. Sampson, Creston; treasurer, Dr. T. B. Lacey, Council Bluffs; secretary, Dr. Charles Wood Fassett, St. Joseph.

Next meeting in March, 1901, at Omaha.

American Association of Obstetricians and Gynecologists.

Thirteenth Annual Meeting, Louisville, Ky.

Sept. 18-20, 1900.

(Concluded from page 842.)

Dr. Rufus B. Hall, Cincinnati, in the chair.

FIBROMA OF THE OVARY.

Dr. L. H. Laidley, St. Louis, Mo., contributed this paper. After giving the pathology of fibromata of this organ, the author reported the following case: Mrs. H., aged 29, married, usually enjoyed good health, with the exception of almost complete deafness due to a specific disease, for which she was treated some fifteen years ago. She became pregnant and was delivered of a healthy child about two months before the removal of the tumor. She had noticed a tumor in the region of the left ovary about two years ago, hard and slightly movable, which continued to grow to the size of two fists. In the development of pregnancy it was pressed upward on a line with the umbilicus and could readily be felt in her left side. There was no pain nor discomfort with its presence up to the tenth day after her delivery. She had a favorable "getting-up," when, on the fifteenth day, she had fever, with pains, causing her to again take to her bed. These continued until he saw her, two months later. There could be readily felt and seen a hard, immovable tumor in the left umbilical region, with considerable ascitic fluid in the cavity. On January 20, an abdominal section was made, revealing a solid tumor adherent to the anterior wall of the abdomen, which was detached. Posteriorly the folds of the bowel were adherent to that portion, which were also dissected off, the tumor freed, kidney-shaped, hard, with short pedicle, one inch in diameter by two inches in length, which was ligated and the tumor removed. In tying the ligature it readily cut through its peritoneal covering, but secured the stump from hemorrhage. On examining the remaining organs, the stump of the pedicle occupied the location of the ovary; the tube remained distinct and separate from the tumor; the opposite side showed a healthy tube and ovary; there was considerable hemorrhage from the surface, bleeding following the operation, but with that exception there was no difficulty encountered. The patient made an uninterrupted recovery. The tumor weighed 32 ounces and measured 6x5x3 inches. A histological report accompanied the recital of the case.

Dr. Laidley also reported a case of "Hernia or Diverticulum of the Chorion."

DIFFUSE NON-MALIGNANT PAPILLOMA OF THE VULVA.

Dr. Edward J. Ill, Newark, N. J., read this paper and showed a specimen which he removed from a patient aged 68. The growth had been of over three years' standing. The inner surfaces of the vulva were thickened, at some places appearing horn-like, white and smooth; at other places there were heavy papillæ, which rose considerably above the surrounding tissue and were from 3 mm. to 15 mm. in diameter at their base. The disease extended from the beginning of the vulva above down to the posterior commissure. It covered the whole vestibule except the tissue immediately surrounding the external meatus of the urethra, and was well defined, but stopped at the vaginal mucous membrane. The vulva as a whole stood out far beyond its normal elevation. The whole vulva was excised. The structure of the tumor corresponds with that usually found in papillomata of the skin. A second case was spoken of by the writer.

THE EDUCATION OF THE LAITY ON SEXUAL MATTERS; WHEN SHALL THEY BE TAUGHT, AND TO WHAT EXTENT?

Dr. Rufus B. Hall chose this for his Presidential Address. The family physician should be the educator of the people in sexual matters, and when he gets the endorsement, and is sustained in his position by the specialist, his influence will be greatly strengthened and widened. He advises that during the last year in high school, in every school in the land, a textbook be employed embracing embryology, hygiene, anatomy and physiology, including sexual physiology, and that these subjects be taught to every student, both male and female. He believes that this could be accomplished without shocking the morals of the most fastidious individual by dividing the classes so as to separate the sexes. A female teacher should instruct the girls and a male teacher the boys. This is the very time in life when individuals should be taught to know the functions with which Providence has endowed them, and how to care for their bodies as well as their minds. It would be a revelation to them to know that the sexual organs in animals as well as the human race are among the first centers to be formed, and can be recognized as such early in intrauterine life. When the laity become educated on this subject as they should be and understand the meaning of pelvic inflammation in young wives as gynecologists understand it, the parents and guardians of young girls will realize that they owe them a duty before consenting to their marriage.

PRIVATE HOSPITALS AND THEIR MANAGEMENT.

Dr. Joseph Price, Philadelphia, said that the well-organized private hospital, managed by such distinguished men as Marion Sims, T. G. Thomas, Thomas Addis Emmet, William Goodell, Stone, of New Orleans, and a few institutions of the present time doing the best work, offer advantages that are not given by the schools or the political hospitals. The political hospital is not the only corrupt institution; a few of the well-endowed general hospitals, managed and handed down in families to the third, fourth and even the fifth generations, are the most dangerous institutions in the medical profession. It is always a misfortune to an endowed charity or public hospital for a family to be in full possession of the funds or endowments, in that it results in impairing or destroying its usefulness. No one has ever, to the speaker's personal knowledge, made money and accumulated wealth out of a private sanatorium. He may out of the fees, but never out of the board, care and nursing of patients. The board of patients rarely pays 5 per cent. on the money invested. A good number of these institutions have been financial failures and have closed. Private hospitals give the operator the best opportunity for doing good work. In well-managed private institutions the patient has one or more attendants with well-regulated relays. In public institutions the speaker rarely finds a nurse in large wards, the only attendants about the patients being a convalescent patient or an old pelican of an attendant. Professional care, one or many visits daily, favor a speedy convalescence. The early and late assurance that a patient is doing nicely does a world of good. Fresh beds, and the numerous little attentions from young, intelligent nurses favor comfort and confidence. It is surprising how much more cheerful patients are in private hospitals than in general, public or school institutions. The surroundings of general hospitals are generally depressing. Patients are eager or impatient to get home prematurely. In a well-managed private institution they are easily controlled and are willing to remain until they are fully convalescent. Hurrying patients out of general hospitals, one, two or three weeks after serious operations results in accidents and complications, post-operative sequelæ, difficult to correct. In private institutions there is added a well-directed rest-cure treatment, which gives pleasing results.

POSTRECTAL OR PRESACRAL GROWTHS.

Dr. James F. W. Ross, Toronto, presented this paper, in which he reported four cases of postrectal tumors, excepting the osteomata. He discussed benign and malignant growths in this region; also their etiology, symptomatology and diagnosis and prognosis, and treatment. No novice should undertake the removal of a postrectal growth. It can only be done by one who has become familiar with pelvic surgery, and who is fully master of the situation. The operator must be full of resource and should be rapid in his movements. In making his incision into the abdominal wall he should always remember that it should be made high up and enlarged downward after the position of the bladder has been ascertained. The author has had no experience with the removal of such postrectal growths by enucleation from above. He is well aware that many thoughtful, prudent and daring surgeons do not hesitate to close the abdomen when this condition is met with. What should the technique of such an operation be? Should the mesorectum be incised close to or far away from the bowel? Should not the incision always be parallel to the vessels and not across them? How is the surgeon to accurately determine the situation of the ureter and, when discovered, how can he avoid it? How can he best guard against injury to the large vessels? In dealing with branchial cysts in the neck the speaker has followed them almost to the spine, but has then left the deep portion of the cyst wall, if it could be called a wall. It seems to him that he would have been forced to deal with the last case he reported of presacral cyst in exactly the same manner because the periosteum and so-called cyst wall were so intimately connected. It would not be wise to drain such a cavity into the peritoneal cavity, but would be more prudent to attack such cysts through the postanal tissues, perhaps with the removal of the coccyx. The solid tumors should always be attacked from the front.

THE LIGATURE AND THE VALUE OF DRY STERILIZED CATGUT.

Dr. J. Henry Carstens, Detroit, described a modification of the Boeckmann method of preparing catgut. The ligatures are prepared in the following manner: Catgut is put in ether for a few days, or a week, until the fat is all removed, and then cut in strips 18 or 20 inches long. Three of these are wrapped in fine tissue paper, then placed in a small envelope. The latter is closed and placed in a Boeckmann sterilizer and subjected to dry heat for three hours. A thermometer is kept in the apparatus, so that the heat is at least 300 F. At the expiration of that time the heat is shut off and the ligatures remain in the sterilizer without disturbance for twelve to eighteen hours, which gives any spores that may be present an opportunity to develop. The heat is again used, and the ligatures are again subjected to 300 F. They are now sterile. They are put in an envelope and can be carried that way in a satchel. When ready for use the end of the envelope can be torn off and the ligature, with the tissue paper, dropped into alcohol, the tissue paper removed and the ligature can be threaded and used. These ligatures are not slippery or greasy, as is the catgut prepared with different oils. The following points were emphasized: All buried sutures ought to be absorbable, and absolutely sterile. Chemicalized sutures are no more sterile than plain sutures. A chemicalized suture is harder and remains longer in the tissues. This latter is a disadvantage. If in a special case it is desirable that a suture should remain longer, dry sterilized kangaroo tendon can be used.

Dr. Frank F. Simpson, Pittsburg, Pa., read a paper on "Some Contraindications to the Intraperitoneal Use of Normal Salt Solution After Abdominal Section."

SIMPLE METHODS IN PELVIC SURGERY.

Dr. John B. Deaver, Philadelphia, said that simplicity is the sine qua non of good surgery. It means safety, surety, confidence, neatness and a great saving of time, which is an essential factor in the success of many operations. The abdominal route is by far the more rational and therefore the best method of operating on the pelvic organs in the majority of cases, and offers several advantages that render it preferable to the vaginal. Radical operations per vaginam are, with few exceptions, the author thinks, to be discountenanced for several good and sound reasons: 1. The limited area for manipulation. 2. The impossibility of inspection without destruction and removal of the uterus, which should not be removed except for good and sufficient disease of that organ itself. 3. The marked increased liability to hemorrhage, both primary and secondary. 4. Increased danger of injuring ureters, bowel, bladder and large blood-vessels. 5. Danger of doing incomplete surgery. 6. Inability to repair satisfactorily injuries to bowel or bladder, etc. 7. Inability to deal safely with an inflammatory mass which involves the vermiform appendix.

THE TREATMENT OF FIBROIDS IN THE NON-PREGNANT UTERUS.

Dr. E. F. Fish, Milwaukee, Wis., discussed the advisability of operating in all cases of fibroids of the uterus as soon as discovered, and leaves it an open question. He emphasizes the necessity of radical interference whenever the tumor or tumors are productive of pain, hemorrhage, pressure, constitutional impairment, unless there be existing disease, such as nephritis, diabetes, tuberculosis, etc. Of radical treatment, he thinks that myomectomy is the operation of choice, whether subserous, interstitial or subcutaneous, if it is single and can be enucleated without loss of tissue and the cavity closed and covered with peritoneum. Where several tumors exist the judgment of the operator comes into play. Many nodules mean many foci, and the author opposes myomectomy on the ground that some of these may not be discovered and later develop and demand another operation. He thinks, too, that under such circumstances the condition might, and likely would, call for future operation. The vaginal route is favored for small tumors, the abdominal for large ones. Hysterectomy is favored when the tumor involved so much uterine tissue that a proper closing of the tumor cavity is not possible, when the organ is studded with small tumors or nodes, when coexisting pelvic disease is present, when the growth is degenerating, when there are adhesions, when the tubes and ovaries are involved to such an extent that they must be sacrificed, when the disease is no longer local, when the change of life has occurred. He favors supravaginal amputation, leaving the cervix when sound, and panhysterectomy when the cervix is lacerated or diseased. He leaves the ovaries if sound, or if only one is sound he leaves that, or if only part of one, he leaves the healthy part. He believes in ignipuncture for small pea-like cysts, and leaves ovary. He is convinced that it modifies the nervous symptoms which usually follow complete removal.

ACUTE SENILE ENDOMETRITIS.

Dr. L. H. Dunning, Indi[illegible] d [illegible] with [illegible] title, it being the second wri[illegible] ct, ..

which he reaffirms his belief that it is a distinct lesion that has not heretofore been adequately described. Since his previous paper he has encountered three more cases, two of which were attended by sanguineo-purulent discharges from the uterus, and one in which there was a large pelvic abscess. The inflammation tends to spread beyond the endometrium into the Fallopian tubes, ovaries and pelvic peritoneum, resulting in much suffering and ill-health, and not infrequently leading to so serious involvement of these structures as to demand operative procedures, such as extirpation of the uterus and appendages, or vaginal incision and drainage of a pelvic abscess. The chief cause of the lesion is infection. It is not definitely self-limited, but tends to become chronic and to lead to marked degenerative changes within the uterus. The treatment recommended is, in cases where the appendages are not involved, dilatation, curettage, the application of a mild caustic and prolonged drainage. When the uterine appendages are involved in the inflammatory process, extirpation of the uterus and appendages is advocated.

TUBO-OVARIAN ABSCESS AND HOW TO DEAL WITH IT.

Dr. Edwin Ricketts, Cincinnati, Ohio, said that tubo-ovarian abscess is frequently caused by the proximity of the ovary to an infected Fallopian tube. The disease may be complicated by normal or ectopic pregnancy, intestinal, vaginal or vesicle fistulæ, and by appendicitis. In the dormant stage the author operates by the abdominal route; in the acute stage he explores by the abdominal route, and then decides between completing the operation in one or two sittings. Following abortion or delivery at full term, vaginal drainage, in his opinion, often puts the patient in better shape for an abdominal section later on.

The following officers were elected for the ensuing year: President, Dr. W. E. B. Davis, Birmingham, Ala.; first vice-president, Dr. Edwin Walker, Evansville, Ind.; second vice-president, Dr. A. Goldspohn, Chicago; secretary, Dr. William Warren Potter, Buffalo, N. Y., re-elected; treasurer, Dr. X. O. Werder, Pittsburg, Pa., re-elected. Cleveland, Ohio, was selected as the place for holding the next annual meeting; time, second Tuesday in September, 1901.

Omaha Medical Society.

RETRO-COLONIC ABSCESS.

Dr. B. B. Davis reported a unique case of retro-colonic abscess. The patient presented the following history: He was eating pork, when he seemed to swallow a bone, which stuck in his throat and was apparently dislodged by copious draughts of water. He was comfortable for three or four days, but then had considerable pain in the right abdomen, with constipation, which resisted cathartics, and vomiting then ensued. Physical examination showed general tympanites with marked dulness on deep percussion from McBurney's point to the floating ribs. Further questioning brought out the fact that he had been feeling very poorly for several weeks and had progressively emaciated. Malignant trouble was suspected and an exploratory operation advised. Incision was made in the right linea semilunaris; the colon seemed normal, but a hard mass was found behind it and apparently intimately attached to it. After much manipulation, pus and fecal matter welled up from a large cavity. An opening was found in the colon. Drainage was used and the sinus entirely closed in about three weeks. The bone which had been swallowed was not found. The appendix and ileo-cecal junction were examined carefully and found normal. Recovery was uneventful.

GANGRENE FROM MILD CARBOLIC DRESSINGS.

Dr. Davis also reported a case illustrating the danger of gangrene from mild moist carbolic dressings. A little girl of 7 or 8 had pulled off a "hang-nail." It gave her pain and she took a solution of carbolic acid which had been used to wash the wood-work of a sick-room, moistened a cloth with it and wrapped her finger in it. The dressing was kept on over night only. Dry gangrene took place, the bones of the finger were necrosed and amputation was necessary. Investigation showed that it was probable that not stronger than a 2 or 3 per cent. solution had been used. He felt that great caution should be used as to the use of moist carbolic dressings.

Drs. Lord and Gifford spoke of similar cases. Dr. Summers felt that most of the cases arose probably from carelessly-made solutions, in which even crystals of the acid got on the dressings.

HYSTERICAL CILIARY ALOPECIA.

Dr. Harold Gifford reported three cases of this condition. Three years ago, two little girls were brought to him about the same time with eyelashes almost gone, and yet there was no ciliary blepharitis. He thought there was some trophic trouble, was much puzzled to explain it, and did nothing for them. Recently he saw one of them; the hairs were almost gone and the lids red and painful. It occurred to him that there might be hysteria in the case. He accordingly sealed up one eye with collodion; dressed it daily, used vaselin on both lids and found, after several days' observation, that a new crop was coming on the sealed-up lid. He was satisfied that the girl had continued to pull them out from the unsealed lid. The girl would not confess, but went home and had no further loss of hairs. He met with two similar cases a little later. One of these girls, 11 years of age, was entirely removed from the appearance of hysteria. The other girl, of 14, pulled out the lid-hairs and the eyelashes also. She confessed that she had seen her father pulling out "wild-hairs" and imitated him.

In the discussion which followed the question was raised whether pulling out hairs was a "habit" or an evidence of hysteria. Dr. Gifford was of the opinion that it was not a habit because it was painful. It could be stopped without difficulty, merely by telling the patients how wrong and harmful it was and threatening to notify the parents if it was not stopped.

PLACENTA PREVIA.

Dr. J. E. Summers, Jr., said that he had been called on by a doctor who reported himself as completely worn out and needed surgical assistance, and asked him to come prepared to do a Cesarean section. He went, found a woman in profound shock and pulseless; the bed soaked with blood. Examinations showed the os dilated sufficiently to admit the tips of two fingers and a centrally-implanted placenta beyond. He dilated rapidly, probably for six or eight minutes, went through the placenta, grasped a foot, brought it down, delivered the trunk, put the forceps on the after-coming head and had the satisfaction of saving the mother, but the child was dead.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Philadelphia Medical Journal, September 22.

1 Multiple Metastatic Sarcoma of the Lungs. Stephen S. Burt.
2 *Gynecology, Its Present, Past and Future. Howard A. Kelly.
3 *The Chemical Examination of Feces for Clinical Purposes. A. E. Austin.
4 *Chronic Ear-Vertigo (Meniere's Disease); Its Mechanism and Surgical Treatment. Charles H. Burnett.
5 *A New Hemoglobinometer for the Examination of Undiluted Blood. Arthur Dare.
6 Acute Seminal Vesiculitis. Henry H. Morton.
7 The Injured Tramp; Who Is Responsible for Him? F. Julian Carroll.

New York Medical Journal, September 22.

8 *The Treatment of Chronic Cystitis in the Female by Curettement of the Bladder and Instillations of Corrosive Sublimate. Charles G. Cumston.
9 *Generalized Tuberculous Lymphadenitis, With the Clinical and Anatomical Picture of Pseudoleukemia; The Study of a Case. (Continued.) Thomas R. Crowder.
10 *Report of Three Cases of Ascending Urinary Infection Due to the Bacillus Pyocyaneus and the Proteus Vulgaris. George Blumer and August Jerome Lartigau.
11 Membranous Enteritis. H. F. Slifer.

Boston Medical and Surgical Journal, September 20.

12 *Treatment of Pott's Disease After the Development of the Deformity. Edward H. Bradford and F. J. Cotton.

13 *Joseph W. England's Fat-Free Tincture of Digitalis. Elbridge G. Cutler.
14 *Knee-Joint Surgery for Non-Tubercular Conditions. Joel E. Goldthwait.

Medical News (N. Y.), September 22.

15 *Studies in Surgical Technique, With a Report on Operative Surgery at the City Hospital for 1898 and 1899. George Emerson Brewer.
16 *Toxicity Versus Septicity in the Infectious Pathogenic Bacteria. Eugene Wasdin.
17 *Total Extirpation of the Ureter. Willy Meyer.

Medical Record (N. Y.), September 22.

18 *The Phelps Operation for Hernia and Method of Closure of Abdominal Wounds. A. M. Phelps.
19 *To What Extent Does "Rheumatic and Gouty Diathesis" Enter Into Traumatic Joints (Sprains and Bruises) Septic and Gonorrheal Joints, Acute Articular Rheumatism, Neuropathic Joints, Arthritis Deformans (Osteoid, Rheumatoid), as an Etiologic Factor? What Is the Scientific Basis for Such a Term? William H. Porter.
20 *Primary Carcinoma of the Parovarian. B. S. Talmey.
21 Simple Fracture of the Shaft of the Femur, With Report of Two Cases of Delayed Union. William H. Shipps.

Cincinnati Lancet-Clinic, September 22.

22 *The Diagnosis and Treatment of Metatarsalgia. Albert H. Freiberg.
23 *Alkaline Saliva. M. H. Fletcher.
24 Occipito-Posterior Presentations. H. V. Sweringen.

St. Louis Medical Review, September 22.

25 Relation Between Parturition and Gynecologic Diseases. Hugo Ehrenfest.

Medical Age (Detroit), September 25.

26 Ulceration of the Rectum, With External Piles; Combined Internal and External Piles. Joseph M. Mathews.
27 Gastric Disorders Producing Constipation and Diarrhea. John P. Sawyer.
28 Carbuncle, With Report of a Case. George W. Griffiths.

Pediatrics (N. Y.), September 15.

29 Peritonsillar Abscess in Children, with Report of Case. L. T. Royster.
30 The Lewis Memorial Cottage for St. John's Guild, at Newdorp, Staten Island, N. Y. Walker and Morris.
31 A Neglected Case of Pott's Disease of the Spine Under Treatment with a New Spinal Brace. Edward A. Tracy.

Iowa Medical Journal, September 15.

32 Some of the Indications for and Sequelæ of Hysterectomy. E. E. Dorr.
33 Suppurating Cervical Lymphatics. F. L. Rogers.

Archives of Pediatrics (N. Y.), September.

34 *Enteric Fever in Childhood. A. D. Blackader.
35 *Exclusive Soup Diet and Rectal Irrigations in Typhoid Fever. A. Seibert.
36 Two Cases of Fatal Lead Poisoning. Allen Baines.
37 *General Subcutaneous Emphysema. A. C. Cotton.
38 A Case of Hysteria with Laryngeal Manifestations in a Boy of Eleven Years. C. Herman.

St. Louis Medical and Surgical Journal, September.

39 The Value of the Vegetable Digestive Ferment in the Treatment of Chronic Alcoholism. John McDonald.
40 The Bloodless Treatment of Congenital Dislocations of the Hip-Joint. Adolph Lorenz.
41 Alopecia Areata. Norman Walker.
42 Diagnosis and Etiology of Beri-Beri. Albert S. Ashmead.
43 Artificial Food. A. Jacobi.

Annals of Surgery (Philadelphia), September.

44 *Cubitus Varus; or "Gunstock" Deformity Following Fracture of the Lower End of the Humerus. Lewis A. Stimson.
45 *The Results of Castration and Vasectomy in Hypertrophy of the Prostate Gland. Alfred C. Wood.
46 *Massage in the Treatment of Recent Periarticular Fracture. George Woolsey.
47 *Excision of the Wrist by a Modification of Mynter's Method. William J. Taylor.
48 The Ileocecal Orifice and Its Bearing on Chronic Constipation, with Report of Two Cases Relieved by Operation. William J. Mayo.
49 Hernia of the Bladder Through the Pelvic Floor from the Traction of a Subperitoneal Fibroma. Francis B. Harrington.
50 *On the Influence of Anesthesia on the Effect Produced on the Circulation and Respiration by Irritation of a Sensory Nerve. Simon Pendleton Kramer.
51 *The Pathology of Fracture of the Lower Extremity of the Radius. (Concluded.) Frederic J. Cotton.
52 *Tetanus. (Continued.) Alexis V. Moschcowitz.

American Medical Compend (Toledo, Ohio), September.

53 Infection from Bacillus Aerogenes Capsulatus, with Report of a Case. J. H. Jacobson.
54 The Case System in Teaching Gynecology. Byron Robinson.

Brooklyn Medical Journal, September.

55. *Some Problems Concerning Nervous Disease. F. W. Langdon.
56. Abdominal Section: Some Points in the Management of Difficult Cases. L. Grant Baldwin.

Austin Flint Medical Journal (Mason City, Iowa), September 15.

57 Etiology and Prophylaxis of Typhoid Fever. Elmer G. Dennis.
58 Homeopathic Department of State University. J. W. Kime.

Chicago Medical Recorder, September.

59 *On the Surgical Treatment of Gall-Stones. Maurice H. Richardson.
60 *On Latent Infection and Subinfection, and on the Etiology of Hemochromatosis and Pernicious Anemia. (Concluded.) J. George Adami.
61 The Good Nurse. James H. McBride.
62 *The Modern Treatment of Face Presentations. Gustav Kolischer.
63 *The Nature of Neurasthenia: A Study of the Recent Literature. Rosalie M. Ladova.

Medical Sentinel (Portland, Ore.), September.

64 Diagnosis of Smallpox. Wallace W. Potter.
65 Mastoid Diseases and the Mastoid Operation. Arthur H. Coe.

The Laryngoscope (St. Louis), September.

66 *Vibratory Massage in the Treatment of Progressive Deafness, with Especial Consideration of My Elastic Pressure-Probe. A. Lucae.
67 *A Plea for an Early Operation in Bilateral Abductor Paralysis of the Vocal Cords. Norton L. Wilson.
68 *Slight Irregularities of the Nasal Septum. Edwin Pynchon.
69 *Nasal and Post-Nasal Synechiæ. J. Price-Brown.
70 Some Remarks on the Etiology of Retropharyngeal Abscess, with Report of Cases. M. R. Ward.
71 Sarcoma of the Naso-Pharynx Cured by Injections of Formalin. John A. Thompson.

Woman's Medical Journal (Toledo, Ohio), September.

72 Purpura Hemorrhagica Attended with Hematidrosis Complicating Pregnancy—Report of Case. Alma L. Rowe.
73 A Study of Heredity among the Women in the State Hospital at Clarinda, Iowa. Anne Burnet.

Medical Council (Philadelphia), September.

74 *The Use of Hot Normal Salt Solution to Cause Absorption of Pleural Effusions. John A. Robison.
75 *Hallux Valgus. Lester Keller.
76 *Common Food Adulterations. A. H. P. Leuf.
77 The Telephone in Country Practice. J. Beverly Deshazo.
78 Preliminary and Minor Railway Surgery. (To be continued.) J. M. Salmon.
79 On Suggestive Therapeutics, Magnetic Healing and Osteopathy. T. H. Line.
80 Treatment of Diseases of the Nose, Throat and Ear by the Family Physician. E. B. Gleason.

Richmond Journal of Practice, August

81 The Care of the Bowels Prior and Subsequent to an Abdominal Section. Hunter Robb.
82 *The Angiotribe in Abdominal Surgery. Hugh M. Taylor.
83 Some Cases of Erysipelas at Southwestern State Hospital. Z. V. Sherrill.

Texas Medical Journal, September.

84 Some Surgical Cases. J. S. Price.
85 The Old Man Must Go. F. M. Davis.
86 Scarlatina or Something Similar. W. T. Evans.
87 Post-Partum Hemorrhage. S. Merriwether.
88 Neurasthenia. Virginius W. Gayle.
89 Uric Acid Toxemia. Arch Dixon.

Medical Herald (St. Joseph, Mo.), September.

90 *New Method of Performing Trachelorrhaphy. P. C. Palmer.
91 The Leucocytes in Cytodieresis, Leuco-Cytogenesis and Leucocytosis. L. H. Warner.

Medical Bulletin (Philadelphia), September.

92 Psoriasis—Epithelioma. John W. Shoemaker.

American Journal of Surgery and Gynecology (St. Louis), September.

93 The Recognition of Syphilis by Examination of the Blood. Benj. F. Gillmor.
94 Myomectomy During the Sixth Month of Pregnancy—Recovery. Eugene R. Lewis.
95 Acute Hepatitis, Cirrhosis of the Liver and Leucocythemia Successfully Treated by Abdominal Section. Emory Lanphear.
96 Two Factors in the Etiology of Uterine Cancer. Thomas Barker Eastman.
97 Stricture of the Esophagus. C. P. Thomas.
98 *Perforation in Typhoid Fever from an Operative Standpoint, with a Report of Cases. Gwilym G. Davis.
99 Wiring Patella, Excision of Upper Jaw, Removal of Appendix. (To be continued.) Henry A. Barr.
100 Injuries of the Scalp. H. C. Fairbrother.

American Therapist (N. Y.), August.

101 *Effect of Normal Serum, Antitoxin and Diphtheritic Poison Upon Blood and Tissue. Geo. P. Cott.
102 *Feeding vs. Starvation in Diseases of the Stomach. Frank H. Murdoch.

Southern Medical Journal (La Grange, N. C.), August.

103 *The Angiotribe in Abdominal Surgery. Hugh M. Taylor.
104 Pyrexia in Infancy. J. W. P. Smithwick.
105 The Development of Chemical Synthesis. J. W. Wainwright.
106 The Antiseptic Treatment of Typhoid Fever, with Clinical Reports. J. W. P. Smithwick.

AMERICAN.

2. **Gynecology, Its Present, Past and Future.**—Kelly reviews the past of gynecology, shows how we have lived through the various fads and theories, what discoveries have been epoch-making and beneficial and thinks that in the immediate future diseases of the urinary tract will first take our attention and later will follow the better understanding of diseases of the rectum and gall-bladder. There will be a closer connection between gynecology and surgery in the immediate future.

3. **Chemical Examination of Feces.**—The methods of chemical examinations of the feces are elaborately described by Austin, who shows what is likely to be found and its significance.

4. **Meniere's Disease.**—According to Burnett, chronic ear-vertigo or Meniere's disease is due to a mechanical cause consisting chiefly in impaction of the stapes in the oval window, and removal of this impaction and liberation of the stapes will cure the disease. The removal of the incus breaks the retractive force of the tensor tympani and malleus exerted through the incus upon the stapes, and the latter bonelet is liberated. In chronic purulent cases it is necessary to excise the remnants of the diseased membrana and the malleus and incus with their synechial bands in order to liberate the stapes. This incision of the diseased ossicles also has the effect of curing the chronic suppuration and preventing antrum and mastoid disease. His operation in brief consists, after sterilizing the auditory canal and membrana, and illuminating with electric light, in making, when the membrane is intact, the initial incision close behind the short process of the malleus and following the periphery closely backward and downward to a point below a line drawn horizontally through the umbo of the membrana. It is usually followed by little or no bleeding. The flap which is thus made is turned inward toward the promontory with a probe armed with sterilized cotton. If there is no bleeding, the incus-stapes joint is seen as soon as the flap is pushed aside; if there is bleeding, it should be checked with a sterilized mop. The incus being now in plain sight, it should be gently disarticulated from the stapes by drawing the former outward and downward by means of an incus-hook knife passed behind its long limb. When this is done the long limb of the incus should be grasped by special forceps and drawn very cautiously downward and outward into the auditory canal and then removed entirely from the ear. When this is accomplished the operation is finished. The slight bleeding that sometimes occurs in the chronic catarrhal cases requires no attention. The meatus should be stopped with sterilized cotton and the ear let alone for 24 or even 48 hours, unless the cotton in the meatus gets moist with blood or serum. If this occur the cotton should be removed and dry cotton inserted. There is to be no after-treatment in such cases, as all is accomplished when the incus is removed. As a rule there is no reaction in these cases, and the wound in the membrana heals by first intention. Sometimes a slight reaction has occurred, shown by a little pain and some mucopurulent discharge. But this is healed in a few days by simply mopping the ear with sterilized cotton and a solution of formalin—1 to 1000—and such reaction has never had any bad effect upon the result of the removal of the incus in checking the vertiginous attacks in any of his cases. He has never encountered a serious reaction after the operation, either in the chronic catarrhal or in the chronic purulent class. In purulent cases the operation is somewhat different, the ossicles are usually plainly visible. The incus should be detached and removed and the remnant of the diseased membrane and malleus completely incised. Hemorrhage is apt to be somewhat troublesome and constant mopping may be required. After the operation the ear requires syringing with bichlorid solution—1 to 500—and the ear should not be stopped with cotton, but allowed to discharge. The subsequent treatment may be that indicated in a case of chronic purulent otitis media. Burnett has performed this operation in twenty-seven cases of chronic ear-vertigo and in no instance has it failed to give relief.

5. **New Hemoglobinometer.**—Dare describes a new instrument for determination of hemoglobinuria, the advantages of which he briefly recapitulates as follows: An immense amount of labor is saved by dispensing with dilution and its possible errors; leucocytosis can not influence the results; adjustment is made for the color curve; the color shades for comparison are made more decided; the pipet is absolutely cleaned; and, most important of all, the readings are uniform and accurate and depend upon principles which allow the best analysis of color shades in the shortest time. Results within 1 or 2 per cent. are obtained with a certainty hardly obtainable with other instruments. Clinical patients who took a lively interest in the examination of their own blood, when asked to make comparisons, rarely exceeded a variation of 2 per cent. in successive trials. In the case of shop-girls who were accustomed to match colors the variation was still less. In considering this instrument, its simplicity, its compact construction, lightness, and portability, as well as the accurate results obtainable with it, should be taken into account.

8.—See abstract in The Journal of September 29, p. 838.

9. **Tuberculous Lymphadenitis.**—Crowder concludes his paper by reviewing the literature and finds that while we are not warranted in assuming that all pseudoleukemias are tuberculous, it is at least established that tuberculous lymphadenitis may give rise to their symptom-complex and anatomical findings. Enough examples have been recorded to show that it is not altogether an infrequent condition.

10. **Ascending Urinary Infection.**—Blumer and Lartigau report cases showing the ascending infection by the bacillus pyocyaneus of the urinary passages, a condition which has not been previously reported, nor has the association of proteus vulgaris with the bacillus pyocyaneus been heretofore noted. Several cases are reported in detail; in the first, the main symptoms were referable to the nervous system, the most important of these being partial paraplegia, loss of reflexes, anesthesia and analgesia, without any cord lesions to account for them. The subsequent development of a bed-sore and its infection by the bacillus pyocyaneus is of interest. It seems probable that this was due to urinary infection. Case 2 is a simple case of ascending urinary infection following stone in the bladder. Case 3 gives a clinical picture of hemorrhagic septicemia probably incidental to the puerperal streptococcus infection. In these cases one striking feature was the comparative nonvirulence of the isolated bacillus pyocyaneus, which the author attributes to the fact that the process was essentially chronic. In the ordinary pyocyaneus infections, which are acute, it is rare to find non-virulent forms.

12. **Pott's Disease.**—Bradford and Cotton report experiments on the effect of forcible attempts to reduce deformity in Pott's disease performed on cadavers and models, including also the questions of retention after correction, and discuss the subject. They also show the effects of treatment as personally observed in the practice of the late Dr. C. F. Taylor. In conclusion, they remark that the correction or rectification of the curve in Pott's disease is to be considered in every case of active disease with a deformity. The employment of force should depend on the pathologic conditions and not on the extent of the curve. Force should be used with great reserve. Improvement of the curve is to be attempted wherever the spinal column can be made straighter without great force. The main dependence, however, for ultimate success remains in the surgeon's careful, continued, and thorough employment of retention appliances which hold the spine in the straightest possible position for a sufficient length of time for consolidation of the diseased bony structures. Success is to be won more by careful attention to detail than by an operative attempt.

13. **Digitalis.**—Cutler calls attention to the fat-free tincture of digitalis devised by Joseph W. England, chief druggist of the Philadelphia Hospital, to meet the serious drawbacks in the use of infusions of digitalis when large doses are required

to produce the desired action on the heart and kidneys. For the past five years this preparation has replaced the official tincture in the wards of the Philadelphia Hospital, and Cutler here reproduces the clinical statements as to its non-irritating properties by Dr. D. E. Hughes, chief resident physician. Several cases are reported and in all the fifteen cases the fat-free was compared with the official tincture under the observation of Mr. England and Dr. F. A. Sherer. The author himself has not used the preparation long enough in the Massachusetts General Hospital to obtain any new data in regard to its action, but his opinion has been confirmed with reference to its usefulness. This tincture does no more than the official tincture will do therapeutically, but it does not produce the nausea and digestive disorders so frequently observed with the latter. He believes it fills an important place and reproduces Mr. England's observations to call attention of the profession to its value.

14. **Knee-Joint Surgery.**—The title of this paper is self-explanatory, it being a report of thirty-eight operations for synovial fringes, injured semilunar cartilage, loose cartilage, coagula, exploratory incision, etc. The purpose of the paper is to show that operations on joints need not be feared more than operations elsewhere and to urge their importance not only to relieve a definitely recognized condition, but also for exploratory purposes in doubtful cases.

15. **Surgical Technique.**—The results of advances in the surgical technique during the past five years in the city hospital are given by Brewer as follows: First year, number of operations, 147; deaths, 8; mortality percentage, 5.4 per cent.; infection occurring in clean cases, 39 per cent. Second year, number of operations, 109; death-rate, 8.2 per cent.; percentage of infection in clean cases, 9 per cent. Third year, number of operations, 165; death-rate, 9 per cent.; percentage of infection in clean cases, 7 per cent. Fourth year, number of operations, 191; death-rate, 6.2 per cent.; percentage of infection in clean cases, 8.5 per cent. Fifth year, number of operations, 168; death-rate, 7.1 per cent.; percentage of infection in clean cases, 3.2 per cent. From these observations the writer thinks that he is justified in saying that, if our technique is perfect, no unfavorable suppuration is to be expected and, while he is willing to admit the decreased resistance of the class of patients received and their greater liability to infection, still he thinks that by a perfect, though perhaps somewhat exaggerated, system, the results are as good as in any other hospital.

16. **Toxicity Versus Septicity.**—The action of bacterial infection is discussed by Wasdin, who divides it into two types, toxic and septic, the former including those cases which are due to toxicity from the seat of infection and the latter, those where there is actual presence in the blood of the bacteria themselves. Of the former type, diphtheria, tetanus and cholera are characteristic, and in diphtheria the colony rests always at its primary seat, disposing of its toxin through the system, and there is a wonderful local reaction, the leucocytes quickly forming a barrier of protection in the so-called "false membrane." In tetanus and cholera there is no such local reactionary collection of leucocytes, but there is no invasion of the circulation, no true septicemia. Influenza most probably is to be classed with these, though the isolation by Pfeiffer of his bacillus from the blood in some cases may require it to be classed with the modified septicemias. The infections which develop septicemia more or less primarily are lobar pneumonia due to the pneumococcus, typhoid fever, bubonic plague, tuberculosis and yellow fever. The author shows how each of these is produced, but doubts whether there are any purely septic infections as clearly septic as diphtheria is toxic. He especially discusses plague and yellow fever and maintains that both toxicity and septicity coexist in many of the infectious pathogenes. The law which governs the formation of the types of cases encountered in all of them is that the infection having taken place, the type of the disease must depend upon the development in the infecting organisms of the inherent qualities of toxicity and septicity; that if toxicity preponderate, there will result the toxemias, and if septicity be the more pronounced, the septicemias will be produced, since these qualities coexist in each infective germ, the one or the other being exhibited in greater perfection according to environment. He calls attention to the fact that this infection characterized by mixed toxicity and septicity responds but slightly to sera, while the most toxic, such as diphtheria and tetanus, and the most septic, such as plague, have been thus benefited. He thinks it likely that until it is possible to separate these qualities and to utilize the one desire, it will be impossible to produce a serum of anything like the beneficence of diphtheria antitoxin.

17. **Extirpation of the Ureter.**—This, as advised by Willy Meyer, is the complete removal of the entire ureter from just below the pelvis of the kidney to its entrance into the vesical wall. The difficulties of the operation are noted and the indications recognized for it are discussed. 1. In malignant tumor of the kidney. As far as he had learned, no such case of total ureterectomy has been reported, and it will generally, in such cases, be a partial one. 2. In tuberculosis of the kidney he doubts whether primary total ureterectomy is often indicated, though a few cases have been reported in which it was seen during nephrectomy that the ureter was very seriously affected and its partial removal would have been an incomplete operation. In the majority of these cases, however, he thinks the ureter will take care of itself if nephrectomy is performed early enough in the disease. He believes that the cystoscope might often furnish the best means of determining the indication for secondary ureterectomy. 3. Another indication would be where the original wound breaks open again and a sinus establishes itself. 4. Pyonephrosis and pyonephrotic stone kidney. It was a case of this kind which led to the origin of this paper. The case shows what mischief can be produced by a single renal calculus which can not pass the ureter, and also demonstrates the necessity of always testing the patency, especially when performing nephrotomy and nephrectomy. If the stone can be reached by the lumbar wound the surgeon should try to push it up and extract it, but if at the lower end of the ureter the organ ought to be exposed extraperitoneally if the patient's condition permits. If it does not it will probably have to be done later. He does not believe that stricture without the presence of stone which was the original cause will often necessitate the extirpation of the ureter after the removal of the kidney. In conclusion he says: "By making it a rule always to test the patency of the ureter down into the bladder when doing a nephrotomy or a nephrectomy, and then, according to the result of the examination, adding immediately or later the necessary treatment of, or operation on, the ureter, many a kidney will be saved from extirpation and much trouble be spared our patients."

18. **Hernia.**—Phelps illustrates his method of operating for hernia with the silver-wire pad. He thinks it necessary to make up for the loss of resistance that has resulted from the chronic pressure and distention by the hernia, and the material required must be one that will not be absorbed and be so elastic that it will bend with each movement of the body. The wire mattress which he puts in place is left and becomes encysted and makes that portion of the abdomen even stronger than the rest. If the wire mattress becomes infected, which seldom happens, he would fill the wound with pure carbolic acid, after curetting out the infected part, and afterward wash it with pure alcohol, which is a perfect antidote, and then allow the wound to heal by granulation.

19. **Rheumatic and Gouty Diathesis.**—According to Porter, the predisposing factors in the development of so-called gout, or rheumatism, are that the intake of nutritive pabulum is larger than the system can properly oxidize or a condition that so reduces the oxidizing capacity of the animal economy that the small amount of food taken could not be properly oxidized. Added to this, in determining the special type, are the action of the bacilli and proteids in the alimentary canal and the formation and absorption into the system of toxic products. These factors together determine the nature of the

lesions, the symptoms, abnormalities and biproducts from which we are able to differentiate the different forms of these suboxidized conditions. There are also a few other things that can not be overlooked, as changes in temperature, hygienic surroundings, nervous disturbances, etc. His arguments are elaborate and he goes into the subject in detail, especially as regards the different forms of rheumatic and gouty affections.

20. **Carcinoma of Parovarian Body.**—From a study of a specimen that was thoroughly examined microscopically and otherwise, Talmey concludes that the growth found was certainly a primary cancer, and he argues to show how any connective-tissue proliferation in the broad ligaments may give rise to cancerous growths. He believes that malignant parovarian tumors are not rare and that if all the so-called ovarian tumors were systematically examined under the microscope a great part of them would be found to be of parovarian origin.

22. **Metatarsalgia.**—This disorder, which was described by Morton in 1876, has been a subject of discussion as to its exact pathologic mechanism since the first. The author rejects Morton's explanation that it is due to pressure on branches of the external plantar nerve between the heads of the fourth and fifth metatarsals, and argues at length in favor of the following propositions: 1. That metatarsalgia is a symptom of several pathological conditions of the foot, and sometimes possibly of constitutional disorder. 2. That it is possible to completely relieve many cases without operative interference by establishing an exact diagnosis of the underlying condition and directing the treatment accordingly.

23. **Alkaline Saliva.**—The gist of this article appeared in The Journal, August 25, p. 484.

34. **Enteric Fever in Childhood.**—Blackader reports the results of observation of 100 cases of typhoid in infants, pointing out the peculiarities and the agreements with the disease as noted in adults. As a rule, the typhoid is milder under the age of 15, the duration in the great majority of cases being less than three weeks. Above 15 it generally follows the course in adults. The treatment which he advises in the majority of cases is the systematic use of water, but he does not think it necessary or desirable that so low a temperature should be employed as in the case of older persons, nor should this treatment be confined, as directed by Brand, to cases where the fever reaches 102.4 F. All sudden and severe shocks should be avoided. Even if the pulse falls below 102, he thinks the regulated use of the cool bath once or twice a day strengthens the heart's action and helps to more rapid convalescence.

35. **Soup Diet and Rectal Irrigations in Typhoid.**—On the ground of the probability that milk favors germs, Seibert has attempted the use of other fluids, such as soups. At the beginning of the attack he gives plain cold water for twenty-four hours after the initial purge, then soups made of meat-broth, containing oatmeal, barley, rice and peas, strengthened, of course, with spices, and later lentil soups with eggs. Five meals in all were given during the day preceded by 5 to 15 drops of diluted hydrochloric acid, unless hyperacidity prevailed. No other medication was employed, but two to four warm-water enemata were given daily. The results were the disappearance of headache, delirium, nausea, insomnia, tympanites, vomiting and fur on the tongue; the appetite returned frequently on the fourth day of treatment, even when considerable temperature existed. Excessive diarrhea even disappeared invariably within one week. In all uncomplicated cases the temperature began to decline within twenty-four to forty-eight hours after the beginning of treatment, and invariably reached the normal within ten to twelve days. In cases complicated by pneumonia, nephritis or phlebitis, the temperature generally remained in accord with this condition until it disappeared, while the cerebral, gastric and intestinal disturbances subsided as rapidly as in uncomplicated cases, excepting only the anorexia. Complications, when not present at the start, were very rare, usually appearing in the first two days. Intestinal hemorrhage was noticed in three cases, none ending fatally; perforation did not occur. In all of the 153 cases treated in this manner there were seven fatalities; three patients were brought in moribund and four had complicating bilateral pneumonia.

37. **General Subcutaneous Emphysema.**—Cotton reports a case of this condition and remarks on its rarity and its fatality. He suggests that relief of the cough and the restriction of respirations were indicated and that incision and drainage are possibly advisable.

44. **Cubitus Varus.**—This condition, which consists in marked permanent adduction of the forearm, has been studied by Stimson, both in specimens and by skiagrams. He says he can not escape the conclusion that the close resemblance in a chance collection of six cases and their easy experimental reproduction, with almost total absence of specimens showing lesions of another kind, justify the belief that the common anatomical cause of cubitus varus is not ascent of the internal or descent of the external condyle after fracture extending into the joint, but that on the contrary it is an angular displacement of the entire lower end of the bone after a supracondyloid fracture, or of its lower portion after a fracture which is practically a partial separation of the cartilaginous epiphysis, especially on its outer side. He suggests for the correction of the deformity pressure outward and downward against the olecranon in rectangular flexion of the joint, or adduction of the fully extended forearm and maintenance of the latter position for a week or two, which would probably be the surest means of preventing recurrence, but it should be combined with confinement to bed.

45. **Castration and Vasectomy.**—Wood has collected a large number of cases where castration or vasectomy was performed for prostatic enlargement, from which he concludes that there is ample reason for advising and performing one of these operations in suitable cases.

46. **Massage in the Treatment of Periarticular Fracture.**—Woolsey has used this method in a number of forms of periarticular fracture and with his increasing experience he is more than ever satisfied with the results. He says he has seen no advantage in discarding splints in the early part of the treatment, as they give a sense of security. We should pay particular attention to the position of the limb in carefully reducing any deformity, and keeping it reduced during massage and between the periods of massage when the limb is in the splint. If this is not possible from the outset, after a preliminary massage, a plaster cast should be applied and kept on from eight to fourteen days, when massage should be commenced. The results in these cases are better so far as position is concerned, equally as good functionally and nearly, if not quite, as quickly obtained as when massage is employed from the first. If, again, after massaging for some time, the position is not found to be correct, or, if after three weeks quite firm union has not taken place, he believes in using the plaster splint for from eight to fourteen days, though the functional result may suffer some delay. He thinks the treatment of fractures, especially articular and periarticular fractures, with the above restrictions, by massage and passive motion gives the best and quickest results as to bony union and function of any method in vogue.

47. **Mynter's Method of Wrist Excision.**—Mynter's method is slightly modified from that originally proposed by Studsgaard, and consists in making a longitudinal incision between the third and fourth metacarpal bones, thus opening up the wrist-joint between the os magnum and unciform bones and between the semilunar and cuneiform bones. Mynter's modification consists in splitting the hand between the second and third metacarpal bones and thus entering the wrist between the trapezoid and os magnum and between the scaphoid and semilunar bones. The dorsal incision reaches up to the radius and the palmar incision not farther than the base of the thenar of the thumb. Taylor has tested this method and reports a case, with skiagrams and photographs of the results, which seem very good.

50. **Anesthesia and Circulation and Respiration.**—Kramer has experimented on animals as to the effect produced on the circulation and respiration by irritation of a sensory nerve during anesthesia. The methods are described, and in one dog, where no anesthesia was employed, the cardiac respiration was increased by 50 per cent., and the inspiratory effect was greatly increased. The cardiac rhythm was also increased approximately to the same extent and the blood-pressure invariably rose. This experiment was not repeated, as others had found the same results. When the animals were deeply anesthetized, so that there was no corneal reflex, the results were very different. In most cases the irritation of the central end of the crural nerve was without effect either upon the circulation or respiration. When the animal, however, was only partially anesthetized, the respiration became greatly accelerated and increased in amplitude, while there was a marked fall in the blood-pressure, which may possibly have been preceded by a slight rise. The conclusion drawn from these experiments is that severe vasomotor shock is more liable to follow operation with partial anesthesia than when done under complete insensibility.

51. **Fracture of the Lower End of the Radius.**—This paper by Cotton, which is concluded from a former number, is too detailed to be abstracted satisfactorily and the reader is referred to the original.

52. **Antitoxin Treatment of Tetanus.**—Moschcowitz's article gives additional cases, ending with No. 290, of tetanus reported which were treated with antitoxin. He finds a mortality of 40.33 per cent. Of the cases with a period of incubation of less than 5 days, 9 recovered and 41 died—a mortality of 42.42 per cent.; of 114 cases with a period of incubation from 5 to 10 days, 52 recovered and 62 died—a mortality of 54.38 per cent.; of 64 patients with a period of incubation from 10 to 15 days, 52 recovered and 12 died—18.75 per cent. mortality; of 24 cases with a period of incubation over 15 days, 20 recovered and 4 died—20 per cent. mortality, and of 55 cases with unknown or unreported incubation, 30 recovered and 25 died—a mortality of 45.45 per cent. The total number treated by intracerebral injections was 48, of which 23 recovered and 25 died, or a mortality of 52.08 per cent.

55. **Some Nervous Problems.**—Langdon first notices the neuron theory, the utility of which he points out, and also the fact that it was somewhat anticipated in 1874 by a personal friend of his, Dr. Samuel Spahr Laws, of Bellevue Hospital Medical College, in a graduation thesis. The first problem which he offers relates to locomotor ataxia and its causation. This, he suggests, may be only a result of heredity or acquired vulnerability of the peripheral sensory neuron system. The tabetic type of individuals has impressed itself upon him. There is a marked similarity in the build, temperament and nutritional defect in the great majority of these patients. He reasons that some other factor than syphilis must be predominant and suggests, rather ingeniously, the assumption of the upright position by man requiring greater delicacy and equilibrium and consequent tax on the neurons, with the special conditions of civilization as making greater strain upon the organs. His theory as carried out involves the idea that chronic degeneration or tabes must commence high up in the cord or in the oblongata. Another disease where motor neurons are especially affected is primary lateral sclerosis, of which he recognizes a purely acquired form occurring in late maturity. He applies the rule "late to develop, early to decay" and thinks that, according to this, it should be more common, and the reason of its rarity is man's indisposition to exert the neuron. All the cases he has observed were in men who had seen military service with its special fatigue and exertions. Another condition noticed is combined sclerosis. He concludes his article with two propositions which he thinks demand recognition: 1, that the most important problems we have to solve are those connected with the individual differences in patients and their environments; and 2, that since it is mainly through neurons that these differences are manifested, both in a psychic and somatic sense, in the expression and elucidation of symptoms as well as in the action of remedies, the solution of the corresponding problems rests largely with the neurologist and psychiatrist. The paper is difficult to abstract without great elaboration, but it is suggestive and interesting.

59. **Gall-Stones.**—Richardson's article is a very lengthy discussion of very many of the surgical aspects of gall-bladder surgery and is too detailed to be abstracted.

60. **Latent Infection.**—Adami takes up the subject of the existence and fate of bacilli in the blood and tissues, and from a thorough discussion of the researches that have been made comes to the following conclusions: There is a passage of leucocytes through the mucosa of the alimentary tract and these, while in part destroyed, in part find their way back, bringing with them food particles, among which may be bacteria present in the intestinal contents. During the active congestion which accompanies digestion the passing out and return of these cells is increased and the germs find their way either through the lymphatic canals or portal system. In either of these they tend to be destroyed by leucocytes. By the employment of adequate methods it can be demonstrated that even in the healthy kidney and liver, in a large number of cases, in rabbits at least, a certain number of microbes are living in any one moment, so that cultures can be obtained from the organ on its removal from the body. It is probable, further, that in health a certain number of bacteria which have not been destroyed by leucocytes pass through the liver into the systemic blood. These tend to be removed by the kidneys and possibly by other glandular organs. In any case the ordinary methods at present employed in making cultures from the blood are insufficient to detect their presence unless they are in such number or of such a nature that they are not altogether destroyed by the bactericidal action of the shed blood. From these conclusions he infers that there is a latent infection—what the French term a latent microbism—that is, a condition in which residing germs are, under favorable conditions, excited into activity. This seriously involves surgical operations as well as other pathologic conditions. He also concludes that at the moment of death these bacteria are multiplied and also that there is a condition of what he calls subinfection in which the tissues destroy germs, but from constant invasion become worn out and chronic or acute infection may supervene. He illustrates his views by the conditions of hemochromatosis and pernicious anemia.

62.—See abstract in The Journal, xxxiii, p. 1419.

63.—Ibid., xxxiv, p. 363.

66. **Vibratory Massage in Deafness.**—Lucae describes an instrument contrived by him for massage, and the results of the treatment. The summing-up of his experience is given that the best therapeutic results will be obtained by the application of the simple hand masseur; although the number of vibrations are limited, yet it has the advantage that each stroke can be controlled by the hand and it is free from many of the objectionable features of other instruments.

67. **Bilateral Abductor Paralysis.**—This article is a plea for an early operation in case of bilateral abductor paralysis of the vocal cords. The author reports cases and has searched the literature, in which he has found 88 cases recorded. In addition to these he has learned of 30 more by letter, only a few of which had been published, making a total of 118. He would not have every case of abductor paralysis tracheotomized or intubated at once, but is against procrastination, as the patient may be lost. Of the 30 cases tabulated, 14 were operated on, while 13 had no operation, and 3 were lost sight of. Of the 14 cases operated on, 10 recovered, 1 died and 3 drifted away. Of the 13 not operated on, 7 recovered, 3 died and 3 were lost sight of. Four of the 7 recoveries were not true paralysis of the abductors, but occurred in neurasthenics, which leaves the percentage of recoveries very small.

68. **Septal Irrigations.**—The occurrence of slight septal abnormalities is so common that the teaching to operate upon them is not generally accepted. Pynchon thinks, however,

that they are liable to make trouble, and advises their removal. He gives in conclusion his views as follows: Slight prominences of the nasal septum, which through heightened color of the lining mucous membrane give evidence of chronic inflammation, are to be reduced as nearly as possible to the normal plane of the septum.

69. **Nasal and Post-Nasal Synechiae.**—Price-Brown thinks that these false bands are rarely congenital and nearly always traumatic. They are often due to surgical interference and he considers the galvano-cautery as the form of this most liable to induce their development. He reviews the various causes of this accident and refers to some cases in his own observation, and remarks as to prognosis that this depends largely on the width of the cavity traversed by the synechiæ. When it is not narrow, treatment may be unsatisfactory. In the bony forms he has found the saw the most useful instrument; for fibrous synechiæ he uses the knife, scissors or curved nasal knife. Any hemorrhage occurring at the time he considers as an advantage. He does not like gauze for tampons, but prefers absorbent cotton soaked in one of the hydrocarbon oils, and left *in situ* for several days. He does not use aqueous sprays at all, but hydrocarbon oils thrown through the atomizer by means of compressed air.

74. **Normal Salt Solution for Pleural Effusions.**—Robison remarks that there is nothing so perplexing as to have to deal with cases of chronic non-tubercular pleurisy with effusion that do not subside after repeated aspirations. He has found in such cases injections of hot normal salt solution of great advantage not only in improving the general condition, but in aiding the carrying off of the effusions. The *rationale* of the treatment is simply: 1, To increase osmosis of the fluid into the blood vessels and the activity of the absorbent lymphatics. 2. It is also a solvent and antiseptic. 3. It has a stimulating effect on the pleural vasomotor nerves, dilating the capillaries and hastening the blood-current.

75. **Hallux Valgus.**—Keller operates on this condition in the following manner: Incision over the enlarged head of the metatarsal parallel to its axis, but not extending forward onto the phalanx, the cartilage of which is carefully preserved. All the structures are pushed aside, the joint opened and the end of the metatarsal removed sufficiently for the toe to come back to its place. About three firm catgut sutures are passed through the tissues adjoining the bone of the toe and metatarsal. These do not extend through the skin, but are entirely buried and, when properly adjusted, help to keep the toe in the correct position. The skin and outer structures are closed with interrupted silkworm gut sutures and gauze dressing applied. A light splint is placed on the inner side of the foot and the whole bandaged. No drainage is needed, and the dressing need not be changed for ten days, when the external stitches are removed and the dressing reapplied. If asepsis is good—and one would better not operate without it—earlier change of dressing is not required. In two weeks the patient may be allowed to walk a little on the outer side of the foot slowly but gradually coming to the normal use of it. In his practice recovery has been complete in from six to eight weeks.

76. **Food Adulteration.**—The importance of food adulteration, especially as regards the health, is noted by Leuf, who details some of which he has learned. Mustard is adulterated in several ways, either by extracting the essential oil and deteriorating its quality, or by mixing it with foreign substances from 30 to 60, or even 75, per cent. The average adulteration is about 50 per cent., and this applies to spices as a class. Pepper, especially the white, is adulterated with cracker dust and a little cayenne pepper. In cinnamon we have wholesale adulteration by cassia bark, and when adulterated in the ground article they use cracker dust and cedar sawdust. Ginger is first weakened and then adulterated, the principle is extracted by alcohol and then it is further weakened by the addition of cracker dust, starch and a little cayenne pepper. Cloves are sometimes deprived of their oil and then adulterated, and allspice is not less so, since it is hardly possible to get anything better than half strength in the market. Together with the removal of the essential oil, the remaining product is mixed with the common adulterants. Nutmegs and mace in the powdered form are often adulterated in this way and artificial nutmegs powdered and scented to suit are also on the market. Cayenne pepper itself is also sophisticated, which he thinks must be done through general meanness, as it hardly pays for the trouble.

82.—This article has appeared elsewhere. See The Journal of August 4, p. 267.

90. **Trachelorrhaphy.**—Palmer here describes a new method of performing trachelorrhaphy, which consists in inserting the sutures and passing them around a broad ring encircling the cervix, which keeps the parts together, and tying the suture outside it. It is then held in place and proper coaptation thus kept up by uniform pressure around the entire circumference of the cervix.

96. **Uterine Cancer.**—Eastman calls attention to the importance of endometritis due to abortions, prevention of conception, and unnatural modes of life, and of cervical lacerations as favoring malignant disease of the uterus, but he does not consider these as the sole causes. He thinks, however, that attention to these will materially reduce the death-rate from this class of diseases.

98. **Perforation in Typhoid.**—After reporting several cases, Davis discusses the condition and the form of operation. He would make the incision obliquely to the internal side of the anterior superior spine of the ilium, where the cecum at once presents, and by drawing it out the ilium follows and can be examined. The summary of his paper is given as follows: The diagnosis of perforation is not always easy. A decided and sudden increase, especially of pain, in the abdominal symptoms, associated with an abrupt fall of temperature, is diagnostic of perforation. Leucocytosis is a confirmatory sign. Hemorrhage is accompanied by a sudden fall of temperature, but not by a sudden increase of abdominal symptoms. Dulness in the right iliac region is not to be expected in cases of perforation. Localized impairment of resonance may be due to free abdominal fluid; change of position causes it to disappear. Localized pain and dulness may be due to a plastic peritonitis around the site of perforation. This may be observed perhaps in one case in ten, possibly one in five. It is impossible to recognize that a perforation is about to occur. It is not necessary to operate before a perforation occurs, but operation must be done before collapse is marked. Typhoid-fever patients, when not in total collapse, are liable to die on the table. He knows of some such cases. Washing out the abdominal cavity with hot normal salt solution, even if no perforation is present, seems to improve the condition of the patient at the time of operation, and to favorably influence the subsequent course of the disease. Operate as soon as the diagnosis of perforation is made. It is less dangerous for the patient to run the risk of having an operation done during the first period of depression, than to wait and run the risk of having collapse preclude all operative measures. In operating incise as for appendicitis, and not in the median or semilunar line.

101. **Serum Therapy.**—First remarking that five deaths have been reported out of some millions of cases where antitoxin has been used, Cott discusses the observations that have been made as to the extreme amount that has been given and the occasional untoward effects. He calls attention to the effect upon the kidneys, and his argument is that this is probably due to the antiseptics in the antitoxin solutions. The least danger is apparently in those preparations where trikresol is the antiseptic and the greatest danger, probably, in those where carbolic acid is used. He thinks that in these cases the irritant which is largely excreted by the kidneys intensifies the destructive processes going on in an already existing nephritis and may cause the death of the patient.

102. **Feeding in Stomach Disease.**—Murdoch reports and illustrates a case of chronic dyspepsia with extreme emaciation which was caused from the fear of food. By careful feed-

ng with three solid meals of dry toast with plenty of water nd chopped steak, and three liquid meals of boiled milk, the atient's condition was vastly improved, as shown in the illusrations given. To assure him that food was not his worst nemy, he washed out his stomach some few hours after a meal f solid food and when the patient saw the water returning lmost clear, instead of being mixed with undigested food, he vas convinced that his stomach was doing its duty.

103.—This article has appeared elsewhere. See THE JOURNAL f August 4, p. 267.

FOREIGN.

British Medical Journal, September 15.

A Discussion on Puerperal Fever in Relation to Notiication.—The discussion was opened by Dr. D. Berry Hart, vho stated the objections to the notification of puerperal fever. First among these he placed the difficulty of determining what s meant by the name, and in this connection he described hree varieties: 1, the acute, rapid form due to a large amount of poison, and usually associated with severe injuries or exensive retention of the membranes; 2, the ordinary lymphatic orm, which is the commonest one, and which usually yields o local antiseptic remedies, but may end in localized cellulitis, r in death if the sapremia be intense; 3, the venous form, vhich taxes the physician's diagnostic skill most. There is iere a streptococcic infection of some clot in the uterine wall vhich causes the general symptoms without giving much, if ny, local indication, and is followed by pyemic affections of he other parts. Typhoid, tuberculosis, scarlet fever or drain oisoning may all suggest themselves. The Widal reaction ielps us as regards the typhoid fever, but as to the other conlitions, he thinks there is still some chance for mistakes. He ias not hitherto thought it right to demand bacteriologic liagnosis in private practice, but he mentions the sign given y Whitridge Williams, which may be of some use, viz., the oughening of the uterine walls indicating infection with putreaction organisms, while if smooth the existence of streptococic infection is rendered most probable. The risk of statistics eing misleading from erroneous diagnosis he considers a minor natter, as physicians will not rashly diagnose puerperal fever, nd the death certificate will give an additional check. The upposed unwillingness of the practitioner to report such cases vhen death does not seem probable is a much more serious objection, and he would make the notification a privileged comnunication, the local health officers not being required to visit he house unless the case be one in the care of a midwife. The dvantages of notification seem to him most obvious, and he s, therefore, strongly in its favor. In the following discussion, Dr. W. J. Smyly thought the notification of puerperal fever night cause great injury to the attendant and Dr. A. V. Macan believed it impossible until it becomes the rule of the profession to inform the patients and their friends what is the matter with them. It is well known that this is not an invariable custom at present. The advantage of the notification is either for the good of the patient herself or to prevent the spread of the disease to others, and he asks how the notification can do the patient herself any good. On the other hand, how will it stop the spread of disease to others more than the ordinary precautions taken by the educated physician in such cases? In the case of midwives, they need instruction, and in his opinion the first step toward lessening the amount of puerperal fever is by the improvement of the education of the doctor and midwife, and not by compulsory notification. Dr. Helme, of Manchester, remarked that it has been so persistently explained that in every case of puerperal fever the physician is the sole and blameworthy cause, that at the present moment, in many districts, to tell the friends that the patient had the disease would permanently injure the medical attendant. He suggested, therefore, that if the rule of notification is to be followed, we should first correct the erroneous opinion of the public in this regard. There were other differences of opinion, but the following resolution was carried unanimously; "That it be a recommendation to the Council that, in the opinion of the meeting, it is desirable that notification of puerperal fever (septicemia) should be adopted generally."

Observations on Human Placentation in the Second Stage. CATHERINE VAN TUSSENBROEK.—The writer's conclusions are as follows: 1. The macroscopical form of the human placenta is accomplished about the sixth month of pregnancy. 2. At that period the decidua reflexa has almost totally disappeared. 3. The reduction of the decidua reflexa is the effect of mechanical pressure. 4. The reduction of the villi of the chorion leve is chiefly effected by the obliteration of the intervillous spaces between chorion and reflexa.

A Discussion on the Natural History of Fibroids and Recent Improvements in Their Treatment.—Alban Doran, in opening the discussion, considered the following questions: 1. The natural history of uterine fibroid. It is not a fibroma. It is always more or less a myoma consisting of muscular fiber like the uterus, and while nobody would think of treating a fibroma with internal medication, it is a fact that ergot acts to some extent on the myomatous tissue as it does on the uterine muscle. It may, therefore, be very beneficial, but these forms are not rarely associated with cardiac disease and then ergot is contraindicated. A more important practical point is the relation of the ovaries to fibroid disease. While no definite changes have been detected in the ovaries the experience of a formerly popular operation shows that the removal in certain cases reduces the fibroid or checks the bleeding. The results, however, are not uniform, but are of some interest to us as bearing on the question whether the ovaries should be left in case of hysterectomy for this cause. 2. We are not quite clear as to the nature of the hemorrhagic discharge in fibroid disease. 3. One of the most puzzling questions is in regard to their growth; the prognosis on this point is extremely difficult. Undoubtedly spontaneous disappearance may occur or the tumor may at least remain stationary, while all other pelvic and abdominal tumors are clinically, if not also pathologically, malignant. The influence of the menopause is also of importance. It is generally believed that a fibroid ceases to grow after the change of life, but Kleinwächter finds from extensive clinical evidence that this is not absolutely true. It seems clear, however, that the menopause is apt to be retarded often until after the fiftieth year in subjects with fibroids. The majority give no trouble after the menopause, only a minority require further attention. The second subject which he discusses is the recent improvements in the treatment. He asks first if there are any recent improvements in expectant treatment. We have advocates of electricity, and the bromids, and he asks the opinion in regard to this matter. The majority of fibroids require no operative treatment, but where this is not so he discusses the various methods. Retroperitoneal hysterectomy is the most popular method in Great Britain at the present time, and he concludes with some remarks in regard to its merits and details. He objects to leaving intraperitoneal ligatures or sutures connected with the stump and finds it best to unite the cut edges of the peritoneal flaps with a continuous Lembert suture of fine silk. As regards the leaving of ovaries, he thinks it does not entail very formidable results and thinks the dread of removing the ovaries a fashion, though on surgical grounds he saves them if possible, not through fear of the consequences, but because the surgeon should remove only what is absolutely demanded. He thinks that retroperitoneal hysterectomy is the best of recent improvements in the radical treatment of uterine fibroids. Panhysterectomy entails more dangers at the time of operation and the ligatures can not be dispensed with.

On Dilatation of the Pupil from Stimulation of the Cortex Cerebri. JOHN HERBERT PARSONS.—The author offers the following as a summary of the principal results of his experiments: 1. Dilatation of the pupil, like other effects of cortical excitation, is best obtained with slight anesthesia. It often occurs without any movement either of the eyes or body, but most when the animal is struggling; it is never seen with deep anesthesia. 2. It is obtained only from those parts of the brain which are concerned in eye movements—that is, from the anterior part corresponding to the frontal [illegible] ar[illegible] he eye muscles, and from the posterior [illegible] occipital "visual center." The frontal area in the dog and cat is in the neighborhood of the crucial sulcus, and the pupil effect is usually best obtained from the mesial surface of the hemisphere at this point. The occipital area is the posterior part of the second external convolution (Ferrier's). 3. When well marked, the dilatation of the pupil is accompanied by all the usual effects of stimulating the cervical sympathetic. 4. The effect is usually more marked upon the opposite eye. 5. The effect is diminished, but by no means abolished, by section of both sympathetic nerves in the neck. The other sympathetic effects are abolished. 6. The effect is abolished by section of the oculomotor nerves intracranially, subsequent to section of the cervical sympathetics. Under these conditions the pupils assume the position of post-mortem equilibrium and are immobile. Hence, I conclude that in the absence of the sympathetic channels the diminished effect is due to inhibition of the tonic action of the third nerves. 7. The effect is not abolished on either side by the section of the corpus callosum. Stimulation of the cut surface of the corpus callosum results in the usual bilateral pupilary reaction. 8. Stimulation of the central end of a cut afferent or mixed nerve—for example, sciatic—still causes dilatation of both pupils after section of both cervical sympathetics—that is, a reflex inhibition of the third nerves. 9. He has not as yet obtained unequivocal constriction of the pupils from stimulation of the cortex, but not much attention has been paid to this point hitherto.

The Lancet, September 15.

Heatstroke in India and Examination of Some Statistics Relating Thereto.—W. J. Buchanan.—This article is largely a criticism of a paper by Dr. Sambon on "Sunstroke as an Infectious Disease." Buchanan takes up the statements contained in said paper as follows: New arrivals are more liable to be attacked than natives or old residents. He admits this to be true, but claims that it only represents a part of the truth. Recklessness and carelessness are characteristic of new arrivals in any hot country, who neglect precautions, but grow more careful with length of residence. There is no acclimatization, as Sambon seems to think, and in spite of precautions, the individual seems to become more and more liable to the effect of the heat until in time his percentage liability, as shown by statistics, becomes equal at least to that of the inexperienced newcomer. The next statement of Dr. Sambon, that siriasis is not always to be found in the warmest regions, is erroneous, as Buchanan attempts to show by figures. He finds that the incidence of fatal cases of heatstroke is greatest in the parts of India where the night and day heat is fiercest, and is also the most prevalent in the months when the heat is greatest. He also found that altitude has not the effect claimed by Sambon; in fact, the danger of sunstroke is greatest in levels above the lowest and altitude enters into the matter only when we come to a point where the elevation is combined with coolness of the atmosphere, as in hill stations. There is no analogy in its distribution with yellow fever, and the statement that its altitude range is more restricted than that of the latter disease is not true. He thinks that it will require much more evidence than that which has been produced to make those who have had experience in India accept the microbial or any other theory which seeks to minimize the great and predominating influence of fierce and continuous heat.

Presse Medicale (Paris), September 15.

Cod-Liver Oil in Tuberculosis. A. F. Plicqué.—The fresh air rest cure is tolerated by tuberculous patients only on an extra amount of food, and especially of fats, to counterbalance the effects of the cold. The struggle in the organism against the bacilli is chiefly the task of the leucocytes, which derive their energy from phosphorus. Consequently the benefits of cod-liver oil in this disease may be attributed to the action of a very easily assimilated fat, to the special combination of phosphorus, to the liver antitoxins contained in the oil, or to all combined. It is utterly useless and only fatigues the stomach when administered in small doses. An adult should take at least 100 gm. a day to derive any real benefit. Jaccoud has been most successful with 200 to 250 gm. a day, commencing with a small amount. It should always be taken in two doses, or, better still, in one dose, at the commencement of the midday meal or before breakfast, followed by a highly seasoned dish or an orange or lemon, if necessary. The oil should be fresh, and cooled if preferred. To disguise the taste a quarter of a glass of strong beer may be mixed with it, or a spoonful of syrup of ether, which assists in its digestion by stimulating the production of pancreatic juice. The addition of 1 or 2 gm. of strychnin may also facilitate tolerance. If the oil induces diarrhea or greasy stools, it is best to suspend it for a few days. It is useless to give it if large quantities are expelled unchanged. Ether or pancreatin may assist in the intestinal digestion. When percussion shows that the liver is becoming hypertrophied and soft, after long and successful administration of the oil, it is an indication of saturation and is soon followed by gastrointestinal intolerance. Remarkable tolerance for the oil during the hot weather has been observed in a few instances, but in general it should be replaced with butter, yolks of eggs, etc., at this season.

Progres Medical (Paris), September 28.

Tunnel Treatment of Abscess in Bones. L. Longuet.—Instead of the usual extensive evacuation and scraping of a circumscribed infected focus in a femur, Longuet drills into the abscess, thus making a well, as he calls it, about 25 mm. in diameter. He then drills through the bone from beneath, or low down on one side, until he enters the bottom of the well, thus tunnelling the bone completely and providing an outlet for the secretions at the lowest point. A rubber drain wrapped in gauze is passed through the tunnel. This method avoids all unnecessary mutilation of bone and soft parts; two longitudinal incisions in the skin are sufficient. The relief from pain is immediate, whether it is a case of ordinary abscess, of osteoneuralgia or of an unlocated abscess. In future cases he proposes to disinfect the tunnel with superheated air. One of his patients was cured completely by this treatment, without even a fistula; the remainder have been lost sight of.

Semaine Medicale (Paris), September 12.

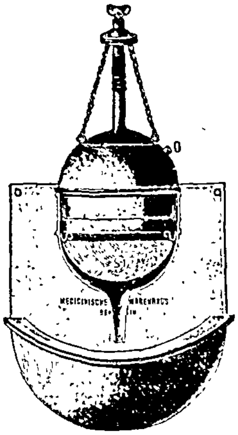
Cyanosis of the Extremities in Brain Disease. F. Leclerc.—Cyanosis of the extremities is pre-eminently a nervous trouble and is usually observed alone or as an accident of hysteria. But in certain cases it appears in the company of other symptoms with which it has certain family traits, all originating in the vasomotor centers of the medulla and adjacent centers on the floor of the ventricle. In a case described, the patient was a man of 35, with a neuropathic heredity, who suffered from almost daily attacks of vertigo, distress and eructations, although free from organic disease. Occasionally the seizures were accompanied by extreme cyanosis of the extremities and transient glycosuria.

Centralbatt f. Chirurgie (Leipsic), September 18.

Restoration of Mobility in Ankylosed Joints. V. Chlumsky.—The production of a flail-joint is usually due to the insertion of some portion of the soft parts between the parts of the joint. If this could be artificially accomplished in a joint threatened with ankylosis, the latter might possibly be prevented. Chlumsky has been experimenting on animals to determine the feasibility of such a procedure and, although his research is not concluded, the results are so encouraging that he announces them without further delay. After resection of portions of the soft parts and bones of a joint on the hind leg of a dog or rabbit, he inserted a thin triangular plate, with rounded edges, to prevent the formation of adhesions, suturing it to the sawed surface of the tibia. The plates were made of rubber, celluloid, silver, tin, gauze or a coating of collodium. The joints healed well with normal flexion and only a slight restriction to complete extension. The celluloid and rubber plates were unaltered and only slightly displaced when the animals were killed, four and a half months later, but the silver and tin had become disintegrated. In another series he used absorbable material, chiefly magnesium. The functional results were equally satisfactory, but as the thin sheet of magnesium was absorbed so rapidly, the space left was small and threatened to become closed ultimately. Further experiments with thicker plates are now under way.

Deutsche Medicinische Wochenschrift (Leipsic), September 6 and 13.

Sieve for Feces. I. Boas.—The little apparatus described screws on a faucet like a filter. The water as it enters spreads out over the small sieve "S" above and thoroughly washes the fecal matters, which are placed on a fine hair-sieve in the lower part. An opening, "O," admits a glass stirring rod. In ten to twenty minutes nothing is left on the sieve but the colorless, insoluble matters, which can then be examined at leisure.



September 13.

First-Aid in Injuries of the Eyes from Lime. H. G. Stutzer.—As time is of much importance when the eyes are injured with lime or mortar, there should be no delay nor hesitation in removing the caustic and therefore Stutzer recommends water for the purpose. The injured person should lie on the ground, another should open the eye wide, pulling down the lids with his thumbs and holding them open while a third pours water into the eye from a height of about twenty inches, using a pail or coffee-pot, preferably with a spout, and trying to make the stream as narrow as possible. The patient should then be taken to a physician, a specialist if possible. The clumsiness of the workmen in opening the eye is not a disadvantage, as the particles of lime are dislodged by the manipulations and are more readily washed out. Illustrated circulars with these instructions should be posted where lime is being used.

Cured Cases of Peritoneal Tuberculosis. Cassel.—If fever continues in a case of tuberculous peritonitis in a child after several weeks of appropriate treatment, the abdomen does not diminish in size and the emaciation progresses, Cassel summons the surgeon without further regard to the nature of the tuberculosis. He has had 18 cases in children under 11, including 3 between 12 and 18 months. Out of the 18 only 2 recovered spontaneously, 3 died and 5 were removed by the parents. Three of the 7 operated on are in perfect health—2 four years and 1 three years—after the intervention. The remainder are still under treatment.

Muenchener Medicinische Wochenschrift, September 11.

Bacterial Capsules as a Means of Differentiation. I. Boni.—It has been impossible hitherto to detect a capsule on certain bacteria when grown on solid media. This is due, as Boni has established, to the lack of color in the background. Substituting bouillon for the water used the capsule stands out distinctly, and thus aids in the differentiation of the bacteria. The typhoid bacillus has no capsule, while by this means one is clearly perceived on the bacillus coli. The medium found most effective in developing a capsule is a mixture of the white of an egg, 50 gm. glycerin and two drops of formalin, shaken and filtered. This mixture keeps well and promptly determines whether the bacterium has a capsule or not.

Test of Waning Vitality of Cells. Bioscopy. M. Neisser and F. Wechsberg.—The reducing capacity of living cells and organisms, the power to decolorize a solution of methylene blue, for instance, is proving an excellent means of determining the degree of vitality of the cell. (See The Journal, September 29, p. 850.) The authors of this communication have been testing this bioscopy, as they call it, on non-motile cells, etc., for instance, tracing the injury inflicted on kidney cells by studying the reducing power as graduated amounts of alcohol are added. The chief merit, perhaps, of the new method is the rapidity with which the efficacy of specific sera or chemical or physical agents, in respect to the destruction of bacteria, can be determined. Anthrax bacilli, for example, reduce methylene blue very rapidly, but the addition of rabbit serum, which is bactericidal for anthrax, arrests the reduction and the stain remains bright. The method can also be applied to determine growth-fostering media. Living tubercle and typhus bacilli, cholera vibrios and staphylococci possess marked reducing power, but it was absent in the toxins or ferments examined. The test can also be used for milk, to determine the microbian contents, by adding methylene blue to graduated amounts of milk, pouring a layer of liquid paraffin on the surface and placing in the incubator.

Wiener Klinische Wochenschrift, September 6 and 13.

Disturbances in Metabolism in Nurslings. M. Pfaundler.—The research on infants with gastrointestinal affections reported in this communication does not confirm Czerny's hypothesis of acid intoxication, i. e., increased excretion of ammonia and diminished elimination of nitrogen. On the contrary, it showed that the oxidating power of the affected liver parenchyma was very much diminished in these cases. The insufficiency was revealed in the products of metabolism, while in the adult and in animals, diseases of the parenchyma seldom entail functional insufficiency appreciable by the metabolism. Nine positive results in ten cases in which the examinations during life had been confirmed by the post-mortem findings, established that the variations in the oxidating energy of the liver have an influence on the nitrogen in the urine of nurslings. A decrease in the fermentative oxidating power of the organ, such as occurs with severe anatomic alterations in the parenchyma of the liver, is accompanied by increased excretion of ammonia, while the amount of urea is diminished.

September 13.

Present Status of Radiotherapy. E. Schiff and L. Freund.—Summarizing the experiences of the last few years in Roentgen therapy, the results show that it is superior to all other methods of treatment for sycosis, favus and other inflammatory or parasitic affections of the hair-covered portions of the skin, by the rapidity and thoroughness of the cure, dispensing with dressings and medicines. When operative treatment is rejected in lupus or would require too extensive intervention, the "bloodless, painless, mild Roentgen treatment enters on its rights." It respects all the sound tissue, requires no hospitals or drugs, and although longer and less certain than operative treatment, is preferable for certain cases. Roentgen treatment has the advantage over Finsen's method that the entire affected surface can be treated at once. In the treatment of hypertrichosis, it has proved effective and painless, but it leads to the formation of small atrophic depressions in the skin at the mouths of the follicles. They are not noticeable, however, and would be recognized only by an expert. Electrolysis is perhaps preferable for small hairy warts and nevi, but for extensive hair-covered surfaces Roentgen treatment should be preferred unconditionally.

General Concentric Franklinization. Breitung.—The patient is placed in a lattice-work cage, the "pavilion," which has wires running throughout the inside, discharging the positive electric breeze, and thus subjecting the patient to a concentric electric-air bath. Neurasthenic subjects are overcharged with negative electricity, and experience great relief and well-being when this is substituted by the positive. The benefits of this "pavilion" treatment have been so pronounced in Breitung's experience with nervous affections of various kinds that he recommends it as a special boon to the general practitioner.

Gazzetta degli Ospedale (Milan), August 26 and September 2 and 9.

The Iodophile Reaction of Pus Corpuscles. V. Porcile.—Wherever the iodophile reaction occurs an active inflammatory process can be assumed. It is difficult to deduce any conclusions from the reaction as to the age, nature, site etc., of the process. The iodophile substan not occ esh tubercles, and the reaction is feeb ely urulen exudates of tubercular origi ied n as ciations. The reaction could never be detected in ascitic fluids, etc., without suppuration.

Glycogen in the Prognosis of Neoplasms. PELICELLI.—The writer's study of 100 tumors of various kinds has confirmed the importance of the discovery of glycogen in a tumor as an indication of its malignancy. It is seldom found in benign tumors. He interprets it as the expression of augmented, accentuated cellular interchanges, not of degeneration. It is the more abundant, the less differentiated the elements of the neoplasm and the more rapid its growth. The glycogenic coefficient of a neoplasm is therefore an indication of its degree of malignancy and affords useful data for the prognosis. Clinical observation in every one of his cases confirmed the microscopic findings.

September 2.

Therapeutic Application of the Cell-Destroying Sera. L. LUCATELLO.—Metchnikoff and others have announced that the serum of animals treated with blood-cells from another species has a distinctly destructive action on these cells in large amounts, but that a small amount of this "cytotoxin," as they call it, stimulates the production of the cells. Like the action of alkaloids and antiseptics on fermentations, a large amount paralyzes, but a small amount induces hyperactivity. Lucatello has been testing these assertions in respect to the "cytotoxins" on four anemic children, and his experiences confirm them in every respect. Dogs were injected in the peritoneum with the blood of the patient. Their serum then acquired the property of stimulating the blood production when transferred to the patient in a subcutaneous injection of .3 to 2 c.c. The number of red corpuscles was increased and also to some extent the proportion of hemoglobin. The erythrocytes increased nearly if not quite to normal and there was slight leucocytosis. This improvement in the composition of the blood persisted for two weeks. The reaction is less pronounced in case of organic lesions with persistence of the causal process of the anemia. The influence of the cytotoxins seems to be principally cytogenic rather than hemoglobinogenic, and this independence of the two processes confirms the autonomy recently claimed for them.

September 9.

Curative Value of Tuberculosis Antitoxin. S. MIRCOLI.—Mircoli tabulates the results of this treatment in 2899 tuberculous patients, mentioning the results on the bacilli, the local lesions and the weight. He classifies the cases as circumscribed apyretic, circumscribed febrile and diffuse tuberculous bronchitis with and without microbian associations, and bronchopulmonitis with cavities. Out of 250 circumscribed apyretic patients, 95 were cured, 110 improved, 30 remained stationary and 35 grew worse. In circumscribed febrile patients, 168 out of 938 were cured, 511 improved, 163 remained stationary and 96 grew worse. Out of 332 patients with diffuse tubercular bronchopulmonitis with microbian associations, 31 were cured, 142 improved, 98 remained stationary and 61 grew worse. In diffuse tubercular bronchitis without microbian associations, 91 out of 665 patients were cured, 301 improved, 166 remained stationary and 106 grew worse. Out of the 712 patients with bronchopulmonitis with cavities, 39 were cured, 281 improved, 102 remained stationary and 240 grew worse. The improvement obtained with anti-toxin treatment is usually permanent. It seems as if the organism, once assisted to effectively defend itself, is able to continue the struggle successfully for years afterward alone. The antitoxin does not act on pyogenic associations nor in cases in which the system is unable to respond to the stimulus of the antitoxin. The aid of hygienic and dietetic measures is also indispensable. The best results were attained with 1 c.c. injected on alternate days. The antitoxin not only neutralizes the toxins, but stimulates the production of "alexins." Its power is shown by examining the blood of patients before and after treatment. The serum of a normal person has a toxic power and also a specific antitoxic power on the tuberculosis toxins to a certain extent. In a tuberculous subject, the former property is above normal, while the latter is nearly if not entirely absent. This condition tends to enhance the effect of the tuberculosis toxins in the system. A month or so after treatment with antitoxin both properties are the same as in a normal subject. This artificially-induced antitoxic power must be due to the active participation of the organism as the potential must be hundreds of times greater than the small amount of antitoxin actually injected. Experimental tests show that the antitoxin also has a direct action on the bacilli, inhibiting their growth and virulence. None of the bacilli develop or produce infection after being kept in antitoxin for twenty days *in vitro*. Tuberculosis intoxication may be conquered without medication, but when the physician is not positively sure that a spontaneous cure is impending, he should bear in mind that nature can be aided and the intoxication conquered more rapidly and more energetically with antitoxin treatment than with any other. It is applicable to all cases and all stages. Tuberculin, on the other hand, adds to the toxins already in the organism, and may prove the last straw to upset an already tottering equilibrium. The recent research on hemolysins has confirmed Maragliano's fundamental conceptions of antitoxin treatment and the autoserotherapy it induces. Naegeli's statements are also confirmatory; he found with improved methods of post-mortem investigation that 100 per cent. of the adults examined presented evidences of tubercular lesions, and claims that every adult is tuberculous. The strong are able to transform an active lesion into a latent, inactive process, and Maragliano, by supplementing the natural resources, reenforces the weak and enables them to accomplish the same result.

St. Petersburger Medicinische Wochenschrift, August 25 and September 1.

Torsion of the Cecum on Its Axis. R. WANACH.—Scarcely fifty cases of torsion of the cecum on its axis have been published. Wanach has had occasion recently to observe two which demonstrate that an external mechanical factor is not necessary to the production of the torsion. Both patients were awakened in the night by the first indications, after retiring in apparent good health. The cecum had no mesentery in one case, but was held by cicatricial fibers proceeding from the neighborhood of an old inguinal hernia. Cases of torsion of the cecum are generally more complicated than of torsion of any other portion of the intestine. In operating, the adhesions and condition of the mesentery which favor torsion must be remedied as far as possible. One patient had evidences of copious exudate in the abdominal cavity and succumbed to septic infection the next day. Clumps of ascarides and teniæ were found in the cecum which, with the ileum, was congested.

Revista de Med. Y Cir. (Havana), August 10 and 20.

Preservation of Cadavers With Formol. J. A. PRESNO.—The climate of Cuba during July and August affords a good test of this method of preserving cadavers, first suggested by Waldeyer and described in THE JOURNAL, xxxii, p. 1438. The formol sterilizes the tissues almost completely and abolishes the cadaveric odor, so that none clings to the hands in dissecting. The tissues are firm and elastic and do not shrivel, but retain their shape and position. The muscles lose their color, although this can be prevented to some extent by adding sodium acetate to the injecting fluid.

Cure of Traumatic Tetanus With Phenic Acid. FLAVEL WOOD.—A lad of 12 developed tetanus after running a nail into his foot, with symptoms of severe infection. Ten drops of a 10 per cent. solution of phenic acid were injected subcutaneously, and fifteen minutes later 20 drops, continuing with 30 drops every half hour all that day and night. Cannabis indica—25 mg.—was added to the solution during the day, but omitted as the pupils contracted. The second day the 10 per cent. solution of phenic acid was injected in half-dram doses every two hours. The third day the patient was able to swallow and a dram of the same solution was given in glycerin by the mouth three times a day. The odor of the phenic acid was marked in the urine. Recovery was prompt and complete. Wood believes that large doses of phenic acid in these circumstances have an antitoxic influence if the system is promptly and thoroughly saturated. The antiseptic action probably occurs chiefly in the blood.

Revista de Medicine Tropical (Havana), August.

The Anopheles in Cuba. J. Guiteras.—The larvæ of the anopheles were found abundant near Havana and Matanzas, but few specimens of the culex could be obtained. Mosquitoes grown from the larvæ proved to belong to the variety described by Grassi as the A. superpictus or the closely-allied A. pseudopictus or costalis. They all rest in the characteristic attitude mentioned by Ross, the proboscis and abdomen forming a straight line, always at an angle of about 45 degrees with the surface on which the insect is standing.

Norkiskt Medicinskt Arkiv (Stockholm), August 9.

Remote Results of Operations for Chronic Ulcer of the Stomach. J. Nicolaysen.—Two of the twenty-seven cases tabulated were operated on more than five years ago, twelve more than two years and eight nearly two years ago. Pyloroplasty was made in five and gastroenterostomy in twenty-two cases. Fifteen are in good health, including all the oldest cases, and not counting the most recent. Six have died, one from ovarian tumor and one from pulmonary tuberculosis, during the second year; four of the deaths occurred soon after operation, including one from pulmonary embolism in four days, one from an unknown cause in one month and one from pernicious anemia in four months. The ulcer had been noted in two cases for fourteen and twenty-four years, respectively. Complete restitution of motility was not attained for a time varying from four weeks to several months, depending upon the degree of the previous stenosis. A corresponding curve was also noted in the faculty of absorbing nitrogen and fat after gastroenterostomy. The blood was examined in eight cases and found normal in two; in the remainder the corpuscles increased rapidly from 3,800,000 with 60 per cent. hemoglobin before operation to 4,000,000 and 5,000,000 with 90 to 100 per cent. hemoglobin afterward. Nine patients with pain and hematemesis were all cured, although four had brief relapses of pain or hemorrhage during the first or second year after the intervention, and one required gastroenterostomy to supplement the previous pyloroplastic operation.

New Patents.

Patents of interest to physicians, etc., Sept. 4 to 11:
657,328. Syringe. Wm. P. Allen, Chicago.
657,279. Bed-pan. Rosa Blank, Vienna, Austria.
657,402. Inhaler. *Peter T. Donovan, New York City.*
657,404. Hernial truss. George Fancher, Greenwich, Ohio.
657,426. Antiseptic broom. Oscar S. Kulman, Savannah, Ga.
657,440. Aspirator. Wm. J. McCaw, Providence, R. I.
657,183. Eye-protector. Edward G. Stevens, New York City.
657,866. Inhaler. Wm. H. Fike, Iberia, Mo.
657,819. Bed-pan. Harriet D. Goodrich, Augusta, Ga.
657,658. Lung tester and developer. Israel Hogeland, Chicago.
657,708. Instrument case. Gustave Rehmann, Newark, N. J.
657,578. Fountain syringe or other cap. George H. F. Schrader, New York City.
657,710. Atomizer. Emmet L. Smith, Chicago.
657,582. Combined undershirt and suspensory bandage. Frank W. Wright, Wichita, Kan.
33,189. Design, atomizer casing. Henry C. Thomsen, Hamburg, Pa.

Change of Address.

W. S. Anderson, Holly Springs, Miss., to Masonic Temple, Memphis, Tenn.
E. S. Albee, Oshkosh, Wis., to 915 Walnut St., Kansas City, Mo.
D. S. Adams, 905 20th St., Rock Island, to 404 N. Lafayette St., Macomb, Ill.
L. M. Berg, 2516 Indiana Ave., Chicago, to San Antonio, Tex.
R. C. Balch, 236 E. Main, to 115 W. Lovel St., Kalamazoo, Mich.
G. A. Bachman, Hopkins Station, to Dorr, Mich.
H. Beyer, Orange City to Sioux Center, Iowa.
W. V. Benjamin, Devil's Lake, Wis., to The N. W. Med. School, 2431 Dearborn St., Chicago.
Jas. N. Carter, 553 Orange St., Macon, Ga., to Med. Dept. Vanderbilt Univ., Nashville, Tenn.
H. W. Cooper, Greenwood, to Wisacky, S. C.
W. M. L. Coplin, Grassland, W. Va., to Jefferson Med. College, Philadelphia, Pa.
O. H. Clark, 203 W. South, to 405 S. Burdick St., Kalamazoo, Mich.
Geo. E. Clements, 398 Marshfield Ave., to Rush Medical College Laboratory, Chicago.
D. C. Dickinson, Salem, to Union Hall, Va.
Thos. G. Duncan, 219 E. 4th St., Owensboro, Ky., to Victoria, Texas.
Gregory Doyle, W. Fayette to 307 W. Genesee St., Syracuse, N. Y.
J. G. Eckstein, Colorado Springs, to Colorado City, Col.
B. F. Frye, Newport News, to Gloucester Point, Va.
M. B. Ferguson, Winnipeg, Manitoba, to Roseburg, Ore.
J. M. Finney, 605 Houston St., Ft. Worth, Tex., to Mangum, O. T.
A. D. L. Gordon, Detroit, Mich., to W. H. Hospital, Blackwell's Isle, New York City.
H. E. Gettier, U. S. Marine-Hospital New York City to Littlestown, Pa.
C. F. Hoover, 282 Prospect St., to Rose Bldg., Cleveland, Ohio.
F. B. Humphreys, Fremont, to Angola, Ind.
S. G. Hollingsworth, Brazil, to Harlan, Ind.
DeWitt Jordan, Ridgeville, to 319 N. Delaware St., Indianapolis, Ind.
H. E. Kelly, *Ottawa Lake, to LaSalle, Mich.*
P. D. Lipscomb, Crozet, to University Station, Charlottesville, Va.
E. E. Levers, Almy, to Piedmont, Wyo.
Frank LeMoyne Hupp, 318 W. 57th St., New York City, to 61 14th St., Wheeling, W. Va.
E. M. Latham, 231 12th St., Toledo, to Holland, Ohio.
W. R. Lavender, 1418 Dodge St., to Continental Blk., Omaha, Neb.
J. P. Munn, 18 W. 58th St., *New York City, to* Wawbeek Adirondacki, N. Y.
M. L. Maduro, 11 W. 121st, to 135 W. 104th St., New York City.
J. T. McDonald, 916 Market St., San Francisco, Cal., to Honolulu, H. I.
W. J. Nix, Batesville, to Cartersville, Ga.
E. D. Piper, 3521 S. Hermitage, Chicago, to Everett, Wash.
T. P. D. Pound, Wilsonville, to 2250 Baxter Ave., Louisville, Ky.
A. S. Plummer, Lone Star, Kan., to 1313 Main St., Peoria, Ill.
Wm. Rupp, Calumetville, to Marion, Wis.
R. R. Reynolds, 219 Superior, to 256 Pearl St., Cleveland, Ohio.
S. R. Ratliff, Lucedale, to Vancleave, Miss.
J. R. Scott, Chicago, to Appleton, Wis.
E. A. Shumway, 124 S. 18th, to 2007 Chestnut St., Philadelphia, Pa.
G. W. Stevens, 1819 Adams St., to 10 Korea Flat, Toledo, Ohio.
A. L. Sherman, East Chatham, to 157 St. Nicholas Ave., New York City.
B. F. Sandow, Honolulu, to Waimea, Kauai, H. I.
S. M. Strohecker, 10192, to 10153 Winston Ave., Washington Heights, Chicago.
M. G. Tull, 4614 Woodlawn, to 4629 Baltimore Ave., Philadelphia, Pa.
Wells Teachnor, Sciotoville, to 910 Franklin Ave., Columbus, O.
M. E. Thompson, 2954 Cottage Grove Ave., to 111 18th St., Chicago.
W. S. Whitmore, Mt. Sidney, to University Station, Charlottesville, Va.
H. Vernon Weaver, Carolina, to 269 Broad St., Providence, R. I.
G. F. Zerzan, Schuyler, to Milligan, Neb.

Queries and Minor Notes.

MEDICAL PRACTICE LAWS.

Farmington, Ia., Sept. 12, 1900.

To the Editor:—Can you inform me whether a physician can practice medicine and surgery in Oklahoma simply by registering, or is there a state board examination? C. C. C.

Ans.—The requirements in Oklahoma are graduation from a reputable medical college, good habits and moral character. Lacking a recognized diploma, the passing of an examination and evidence of five years' practice is necessary.

DEFINITION OF INSANITY.

Cambridge, Mass., Sept. 13, 1900.

To the Editor:—Will you kindly inform me as to the number and name of the medical journal which contains the paper by Dr. Hughes referred to in the enclosed clipping from The Journal?

Insanity Defined.—Hughes reviews some of the attempts to produce a satisfactory definition of insanity and offers the following as his contribution to the total. He says: "We need never be at sea before any court, before any jurist, in giving our views of insanity as a disease primarily or secondarily involving the brain of the individual so as to produce in him a change in the natural habits of thought, feeling or action—a change of his normal, natural mental expression by which and by reason of the disease underlying all, he is placed out of harmony with his surroundings, with his natural self or with his normal family type of mind." L. B. B.

Ans.—The above definition is contained in an article by Dr. C. H. Hughes, published in the *Alienist and Neurologist* for April, 1899, p. 170.

TREATMENT OF EPILEPSY.

Norfolk, Va., Sept. 17, 1900.

To the Editor:—On p. 719 of The Journal, under article "Treatment of Epilepsy," it says: "Flechsig's method [illegible] ied." Will you please let me know what "Flechsig's met[illegible] have a case on hand and wish to try it.

Ans.—Flechsig's method consists in giving [illegible] ¼ *gr. or less three times a day, and gradually in-*

solution and it is more convenient to make in quantity in this proportion. He takes 3 or 4 c.c. of the eosin solution and adds to it the methylene-blue solution drop by drop until the red color has just completely disappeared. I have found it more satisfactory to keep the two solutions in burettes, as is done by Bastianelli and Bignami. Having made up a liter or more of the separate solutions a few experiments will show the exact proportions of each which gives the best result, and thereafter the exact amounts can be easily measured out from the burettes. The two solutions should be mixed just before use in a covered staining dish with a concave bottom. The specimen is to be left in the stain for from three to twenty-four hours. A scum which forms on the surface of the stain should be removed carefully with a piece of filter paper, just before placing the specimen in it and again just before taking it out. The use of this method requires a certain amount of practice at the beginning, but it gives such wonderful pictures that it is well worth the trouble taken. The red corpuscles take a dark-red color and the nuclei of the leucocytes and of the nucleated red corpuscles take a deep carmine-violet. The protoplasm of the malarial parasite stains blue. The nucleus of the malarial parasite is seen to be made up of a peripheral unstained or achromatic portion and a central mass or cluster stained a deep carmine-violet, which is chromatin and is sometimes spoken of as the nucleolus.

We will now consider the different varieties of the malarial parasites as they appear at the various stages in their cycle of development.

Tertian Parasite.—The young tertian parasite when it has just entered the red corpuscle is nearly spherical or sometimes apparently ring-shaped. It has a dense rounded mass of chromatin surrounded by a thin peripheral achromatic zone. The parasite grows slowly at first, the protoplasm shows more and more irregularities in shape as ameboid movements become more active, but indications of the ring shape are often seen until the parasite nearly fills the corpuscle. After several hours pigment begins to appear in fine granules, which look brownish in color, probably on account of their minuteness. The pigment increases in amount and becomes coarser and apparently blacker. It is scattered throughout the protoplasm until near the time for segmentation, when it shows a tendency to be pushed to the periphery. The red corpuscle becomes progressively larger and paler throughout the cycle. The protoplasm of the parasite and the achromatic portion of the nucleus increase in size slowly for the first half of the cycle and more rapidly after that until near the time of segmentation. The chromatic portion of the nucleus remains unchanged for eight or ten hours, and then begins to break up into granules, which becomes finer and finer until they are invisible just before the process of segmentation begins. At this period, which is short in duration, no nucleus can be made out, but very soon fine granules of chromatin can be seen arranged in clusters and strands throughout the protoplasm. More or less pale areas can be seen in the protoplasm, but they seem to have no relation to the chromatin and it is difficult to say whether or not they represent the achromatic portion of the nucleus. The chromatin granules soon show a tendency to become aggregated in masses, at first about five or six in number. The chromatin then gradually loses its granular appearance and becomes arranged in sixteen or eighteen dense homogeneous masses, each surrounded by an achromatic zone and having a mass of protoplasm surrounding it or lying close to the side of it. The spaces between the separate segments become more and more evident and the pigment being left out collects in one or two masses near the center. The red corpuscle now ruptures and disappears and the new-formed segment is ready to begin an independent existence in some new red corpuscle as host.

Quartan Parasite.—The young quartan parasite, like the tertian, is made up of nucleus and protoplasm. The nucleus has the peripheral achromatic portion with chromatin in the center, but the chromatin is not in a solid rounded homogeneous mass as in the tertian, but is more or less irregular and often can be seen to be made up of separate granules. As the parasite grows the protoplasm and achromatic portion of the nucleus increase in size, the protoplasm showing fewer irregularities in shape than in the tertian. It is usually oval, but often stretches from one side of the corpuscle to the other like a band. The chromatin disintegrates more rapidly than in the tertian, and during a long part of the cycle is seen only as a cluster of dust-like granules. The containing corpuscle diminishes in size and stains more deeply with the eosin. The pigment is usually, but not always, coarse when it first appears, and it shows a tendency from the first to seek the periphery. The chromatin reappears, before segmentation, scattered through the protoplasm, and finally becomes aggregated in eight or ten masses, which are usually not so rounded and dense as in the tertian form.

Estivo-Autumnal Parasite.—Two different parasites have been described in the estivo-autumnal fevers, one having a cycle of twenty-four hours and the other of forty-eight hours. I have not been fortunate enough to see any case corresponding to the twenty-four hour type, so these observations refer only to the so-called malignant tertian fever. The young parasite is somewhat smaller than the young tertian or quartan parasite. The chromatin is less in amount and often becomes arranged in two small masses or a delicate strand. The rest of the cycle must be studied in material derived from the spleen by tappings during life or from the spleen or bone-marrow obtained at autopsy. The chromatin gradually disintegrates and reappears at segmentation as in the other forms. The number of segments varies from ten to twenty, or more. The chromatin appears in the segments in small round masses with a relatively small amount of protoplasm. Even at full growth the parasite does not more than one-third fill the corpuscle.

The changes hitherto described have been those seen in the sporulating generation, the mode of reproduction serving to propagate the species in the body of a single host. We will now consider the changes that take place in the sexual generation, the form of reproduction for the extension of the species to the body of a new host. This process can be best studied in estivo-autumnal fever, in which the gametes, or individuals capable of sexual multiplication, are often very numerous. They are the well-known crescentic bodies, and they can be divided into two classes according to the arrangement of the nucleus. In one the chromatin is in fine granules situated in a round, clear space at one end of the central clump of pigment. The pigment sometimes partially or completely surrounds the nucleus, and this is the type which, in the fresh blood, can be seen with the pigment in a ring. In the other type of crescent the chromatin is scattered among the pigment granules. The central portion of the crescent takes the blue protoplasmic stain more faintly than do the arms of the crescent. When the blood is taken into the stomach of the mosquito, interesting changes take place in the crescents. The same changes take place when the blood is left a short time under a cover-slip and they may be studied by leaving the thin film of blood between two cover-slips protected from evaporation in a small closed chamber. After a longer or a shorter time the cover-slips are pulled apart and the blood allowed to dry. A series may be made in this way by leaving the cover-slips in contact for from five minutes to an hour. Very soon after the blood is drawn the crescents become spherical, and here again two different forms are found. One form is small, about half the size of a red corpuscle, perfectly spherical, and has pigment scattered throughout. It has at first an irregular mass of chromatin in the center, which later becomes arranged in four or five rounded masses near the periphery. From these masses develop the motile flagella. Each flagellum is made up of a central thread of chromatin, which often has a nodular mass at the distal end or somewhere along its course. Sometimes a blue-staining envelope of protoplasm can be seen. The flagella break loose from the central mass, leaving nothing but a little protoplasm and the pigment. The other form of spherical body is three or four times as large as the first and is usually not perfectly spherical, often having a somewhat triangular shape. The chromatin is in a single large mass surrounded by a clear zone and situated near the periphery. The pigment is arranged in a more or less perfect circle, which surrounds the nucleus. These bodies never give out flagella, and they probably represent the female or macrogametes. The flagellating body represents the male, and is called the microgametocyte. I have not been able to observe the actual penetration of the flagellum or microgamete into the macrogamete, but this has been seen by McCallum. Crows are often infected with halteridium, a parasite resembling that of malaria. The blood is sometimes crowded with the parasites and the process of fertilization can be easily observed. The fertilized female is an actively motile body, shaped like a long, narrow pear, often having a small rounded appendage at the blunt end, which contains the pigment. The nucleus is situated near the center, and is made up of an irregular mass of chromatin without any achromatic portion. The process of sexual reproduction in the tertian form is similar to that in the estivo-autumnal. The gametes in blood which has just been drawn are large intracorpuscular bodies, having a large nucleus composed of fine chromatin granules surrounded by an achromatic zone. They soon become extracorpuscular, and after fifteen or twenty minutes the microgametocytes flagellate like those of the estivo-autumnal parasite. The structure of the macrogametes and microgametes differs in no respect from that already described for the estivo-autumnal parasite.

To obtain material for the study of tissues in the malarial fevers, the autopsy should be made as soon after death as possible. The tissues may be fixed in Zenker's fluid or formalin. Alum-cochineal and borax-carmin are satisfactory stains, but I have obtained my best results by leaving the sections for three days in Ehrlich's eosin-hematoxylin mixture. Unfortunately all efforts to apply the Romanowsky stains to the study of sections have resulted in failure. Much information can be obtained from cover-glass smears of fresh tissue, especially of the spleen and bone-marrow. The smears are fixed and stained like blood preparations.

The changes in the organs may be classed as those occurring in each acute attack and those resulting from repeated acute attacks. The most marked changes are found in the spleen, liver, bone-marrow, brain, and alimentary canal. In the acute attacks the spleen is enlarged owing to hyperemia and the presence in the dilated vessels of the pulp, of free pigment, parasite-containing red corpuscles, and phagocytes. The pigment may be in fine granules, but is mostly in large rounded clumps left after segmentation. The polynuclear leucocytes contain pigment and more rarely broken-down parasites. There are many macrophages or large phagocytic cells, which are usually mononuclear and contain non-infected red corpuscles, fragmented, brassy, and parasite-containing red corpuscles, free parasites intact, and broken-down, pigment in blocks and granules, and leucocytes which sometimes show signs of degeneration. On the other hand, the nucleus of the macrophage often shows by poor staining and fragmentation that it is undergoing degeneration. The red blood-corpuscle carrying cells may be increased in number. The pulp cells may be swollen and contain parasites, pigment, infected and non-infected red cells and mononuclear leucocytes. The endothelial cells of the blood-vessels are phagocytic and often contain pigment, parasites and changed red blood-cells. There may be areas of necrosis, often showing an invasion of leucocytes; capillary thrombosis may be associated with these areas of necrosis. The parasites found in the spleen may be at all stages of development, but the segmenting forms are particularly found here, especially in the estivo-autumnal variety. The chronic malarial spleen may reach an enormous size, caused by the acute process repeated many times. The dilatation of the vessels leads to the formation of venous lacunæ. The necrosis of portions of the pulp is followed by hyperplasia of the surrounding tissue in an effort at repair. The pigment is partly deposited in the perivascular tissue, from which it is removed by the lymphatics, leaving a thickening of the perivascular connective tissue.

The liver in an acute attack shows an accumulation in the capillaries of phagocytes brought from the spleen. They are leucocytes and macrophages containing red cells, parasites and pigment. The endothelial cells of the liver capillaries are phagocytic and become swollen in places, and by thus obstructing the blood-current have much to do with the dilatation of the vessels of the liver, and probably also of the spleen. Kupffer's cells, lying between the capillary walls and the rows of liver cells, also take on phagocytic action. The liver cells contain yellow granular pigment, which differs chemically from the pigment in the parasites and in the large black masses in the phagocytes and tissues. It is derived from the remnants of hemoglobin left after segmentation and from a destruction of red cells, which is probably due only indirectly to the malarial parasite through the action of the poison. It gives the microchemical reactions for iron, which the true malarial pigment does not. Areas of necrosis of the liver cells can be made out, which may be due in part to capillary thrombosis, but in the main are caused by the toxic substances in the blood, and are similar to those due to the toxins of certain bacteria. As time goes on the dilatation of the capillaries persists and the pigmentation of the endothelial cells is more evident toward the periphery of the lobules. The perivascular lymph-spaces are enlarged; pigmented leucocytes and macrophages are seen outside the capillaries and there is an accumulation of free pigment in the connective tissue. Necrosis of hepatic cells has advanced. Still later, the pigment is more markedly accumulated at the periphery of the lobules. In the n[illegible]tic areas there is a regeneration [illegible]ver tis new cells being arranged in cords along the necrosed cells. The pigmentation next becomes exclusively perilobular. There is irregularity in the size of the lobules, owing to the atrophy of some and the enlargement of others due to the formation of new liver cells. Finally there is a gradual diminution of the pigment, leaving dilatation of the vessels and a moderate hyperplasia of the perivascular connective tissue. Whether or not a true atrophic cirrhosis can be caused by malaria is not yet settled. Certainly it is not so frequent as was once supposed, and cirrhosis of the liver is not especially common in malarious regions, but from the analogy one would suppose that the areas of necrosis might well lead to cirrhotic changes, as has been shown by Flexner to be the case after similar necroses caused by bacterial toxins.

The red bone-marrow contains parasites in all stages of development in red cells and in macrophages. In the estivo-autumnal form crescents perfect and in process of formation are present in large number. These embryo crescents are sometimes also found in the spleen, but it is probable that the manufacture of crescents takes place for the most part in the marrow. In the early stages they are probably indistinguishable from the ordinary sporulating forms, but when the latter have about one-third filled the corpuscle they undergo segmentation. The young crescent, on the other hand, continues to grow until it has nearly filled the corpuscle, the chromatin remaining in fine granules. It preserves a spherical shape for some time and then gradually assumes the characteristic semilunar form.

In the lungs numerous pigmented phagocytic cells can be found in the capillaries, which are somewhat smaller than the macrophages seen in the spleen and liver.

An important characteristic of the estivo-autumnal fevers is the unequal distribution of the parasites in the different organs of the body. Often many of the capillaries of the brain are found crowded with segmenting parasites, and it is probable that the coma, convulsions, aphasia and sudden death in these cases are caused by the mechanical presence of these accumulations obstructing the blood-current in the capillaries. Small hemorrhages are sometimes observed. Another seat of localization is the stomach and intestines, where the capillaries of the mucous membrane may be filled with parasites, and areas of necrosis result. These are the "algid" cases, presenting a clinical picture resembling that of cholera.

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Technique of Alimentary Rectal Injections.—Boas mentioned at the International Medical Congress that he had found a permanent sound of great assistance in feeding by the rectum. The fluid is injected a drop at a time and as much as 500 c.c. of milk can be given in this way at one "meal," administering thus 1.5 to 2 liters of milk during the twenty-four hours. He warns, however, that the prolonged use of alimentary injections of any kind is liable to lead to serious syncope, and consequently they should only be applied when constant surveillance is possible.

WHAT AMOUNT OF VISUAL DEFECT SHOULD DISQUALIFY IN RAILROAD SERVICE?

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CHICAGO.

The title of this paper constitutes one of the unsettled points connected with the subject of the ocular and aural requirements of transportation employees. Considering the absolute lack of any such requirements whatsoever, obtaining in transportation circles, only a few years ago, it is quite surprising that so much progress has been made along these lines up to the present time. Only a few years ago, the quality of an engineer's eyes and ears was never brought into question, while now the importance of the health of these organs is a settled and incontrovertible fact. The cause of this revolution of sentiment is due to the persistent efforts of ophthalmologists, aurists and conscientious and capable railway surgeons. It must be admitted, however, that honest and sincere railroad officials have quite generally been reasonably quick to grasp the importance of the subject, and to realize the enormity of their own responsibility, in entrusting human lives, and property, to the keeping of employees physically incapable of piloting trains through hazardous situations. Besides this, the financial element has not been without its impression on the minds of railroad officials, for it soon became evident that notwithstanding the fact that ocular and aural examinations of employees entailed some additional expense, in the long run it was a distinctly economical measure, as it was much cheaper to entrust trains to men known to possess good eyes and ears than to pay for accidents, damage suits, etc., believed to have been due to defective conditions of these organs of special sense. In England, Holland, Sweden, Norway, Germany and other European countries a paternal government frames beneficent laws concerning ocular and aural requirements of railway employees. These requirements are not always what they should be, but nevertheless the government considers the matter of sufficient importance to regulate the subject, and that signifies much and presages better things for the future. In this country, there are still, it must be regretfully admitted, some railroads requiring no standards whatever of ocular and aural health of their employees, and whose officials dogmatically and stubbornly assert that determining examinations are unnecessary, as they know when a man has bad eyes or ears, without paying a doctor to disclose the fact. But while such officials are thus far behind the times, a very large majority of American railroads are operated under some kind of regulation and restriction, which clearly demonstrates that their managers are unable to close their eyes to the importance of the subject. These requirements are frequently most meager, unsatisfactory, unsafe and unscientific, but nevertheless they disclose an acknowledgment of the subject's importance in the minds of railway officials, and this is a victory that will expand and grow in the not distant future.

Certain points concerning eye and ear requirements for railway employees are quite well established and much time, therefore, need not be expended in their discussion. For instance, it is practically conceded by all interested parties, including even the employees them-

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[*] Presented to the Section on Ophthalmology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

selves, that every one connected with the actual moving of trains should have good eyes and ears. The standards of excellence, and the means of investigation, are still under discussion, but the main fact as just presented, may be said to be settled. There is a practical unanimity of sentiment concerning color perception, and while concessions are frequently made to old employees with diminishing visual acuity, the standard of perfection regarding the color sense is maintained for all time, in all railroads paying any attention whatsoever to the subject. In order to ascertain if possible what is being done in railroad circles in matters of this nature, I have sent a letter of inquiry and a question blank to every railroad in the United States, Canada and Mexico operating over 100 miles of road. Two hundred and forty-four railroads were thus addressed, covering 205,638 miles of road. I have received replies from 64 roads, operating 90,950 miles of road, and I have tabulated these reports, and herewith present them in statistical form. It is to be regretted that all the roads did not reply, but such a fortunate result was, of course, not to be expected. Sufficient has, however, been learned to gather a reasonably good idea as to what representative railroads are doing in the way of eye and ear examinations, and I shall beg leave to briefly analyze the different points in the report.

I find that 53 out of 64 roads exact a systematic eye and ear examination of some kind. These examinations are undoubtedly bv no means ideal in many instances, but it shows an active interest in the matter, and emphasizes the fact that but few roads have the assurance to face public and professional opinion by openly avowing their non-adherence to the trend of advanced thought and ordinary caution.

As to what men are subjected to such examinations, the replies are differently couched, but it is evident that at least 50 of the roads require such examinations of all men directly engaged in moving and operating trains, and in giving and receiving signals, such as engineers, firemen, conductors, brakemen, yardmen, signalmen, switchmen, etc.

One road acknowledges not making systematic examinations, but when they are made, from any reason, subjects such men as just mentioned to the ordeal. Another road under similar circumstances confines the examinations to engineers, firemen, conductors and brakemen. One road claims to make systematic examinations, but only engineers and conductors are tested. Another road only examines engineers, conductors, brakemen and firemen.

Concerning the question as to how these examinations are made, it will be seen that they are conducted exclusively by the railway surgeons in nineteen roads. Eighteen roads entrust the tests to a railway employee, such as a division superintendent, trainmaster, etc. Under this arrangement it is believed that only doubtful cases are sent to the railway surgeon. Upon six roads, doubtful cases are sent to an eye and ear surgeon. Nine roads entrust the whole matter to a regularly employed eye and ear surgeon, and three roads first have the men examined by the railway surgeon, who then sends doubtful cases to the eye and ear surgeon. In three roads, the examinations are all made by surgeons of railway relief associations.

Regarding regular systematic re-examinations there is great diversity of action. One re-examines every six months, four every year, fourteen every two years, four every three years, and two every four years. Eight re-examine whenever it seems advisable, as after a severe illness or injury, or after a railway accident, or when certain incidents bring into question the reliability of the eyes or ears of an employee. One road requires re-examinations merely at times of promotion, and another when a man arrives at the age of 50 years.

As to the standard required from examined men, there is also much diversity of opinion. Upon twenty-three roads it is claimed that perfect eyes and ears are required from new men, and that no concessions whatever are made to old employees. This statement seems rather broad and Utopian, and really hardly possible, unless old employees are constantly discharged to make place for younger and more perfect men, and the writer is unaware of any road where such practices exist, and would not approve of them if they were. A perfect standard should be required of men entering a service, but it would be unnecessarily cruel and inflexible to continually discharge old and trusted employees simply because their vision had dropped to 20/30, or had slightly impaired hearing, and whose experience and matured judgment make them extra valuable to the service. This statement, it is believed, therefore, must be unconsciously somewhat highly colored, at least it is hoped that this is the case. In sixteen roads, while perfection is required of new men, various reasonable concessions are made to old employees. On one road the following requirements are made: Engineers and firemen shall possess a vision of 20/20 in one eye and 20/30 in the other. Conductors, flagmen, brakemen and switchmen must have a vision of 20/30 in one eye and 20/40 in the other. Other employees must possess vision equaling 20/40 in both eyes. Upon the road just referred to, it was not stated whether the requirements were for new men only, or whether it is the universal and constant standard to be perpetually observed. With one road the applicant must possess eyes and ears whose functions shall equal 75 per cent. of the normal function. One road requires perfect eyes and ears for firemen. All the employees must possess vision equaling 20/20 in one eye and 20/50 in the other. Another road sets the standard of vision at 20/30 and declares that a whisper must be heard at twelve feet. One road requires a combined vision of 20/20, and that neither eye shall drop below 20/70. Another road requires of engineers, firemen, signal-tower men and switchmen vision of 20/20 in one eye and 20/30 in the other. All other men must have 20/30 in each eye, or 20/20 in one eye and 20/50 in the other. Upon two roads employees are retained who still possess vision equaling 20/40 in both eyes, and when the hearing is half lost in one ear, provided the other ear is perfect.

It is interesting to notice under what circumstances a man is considered an old employee by different roads. One road considers a man an old employee when he is once installed into actual service; another after he has worked one year; another after two years of service. Six roads require three years of service; eight roads five years; one road six years; six roads two years, and two roads fifteen years.

Concerning the use of glasses, when on duty, it is feared that the question has been misunderstood. I meant to ask the question as to whether glasses were permissible in actual service, when their use was necessary to bring vision up to a proper distant standard; but owing to so many roads (45) returning an affirmative reply, I fear the question was interpreted to refer to the use of glasses for reading when on duty. Seven roads, however, specifically state that old employees may wear distance glasses, if glasses will enable them to reach

Statistical Report of Eye and Ear Requirements of Railway Employes

By FRANK ALLPORT, M. D.
Of CHICAGO, ILL.

No.	Railroad.	Miles.	Are Eyes and Ears Systematically Examined.	If so, what class of employes? And do you require same standard for all classes.	Are such examinations made by an Eye and Ear Surgeon, a General Surgeon, or by some R. R. Employee?	Do you require reexaminations from time to time and if so, at what interval or under what circumstances?	Do you require perfect vision, color sense and hearing in new employees? And what concessions do you permit from a perfect standard in the case of old employes?	How long must a man work on your road before you call him an old employee?	Do you permit old employes to wear glasses when on duty?
1	Louisville Henderson & St. Louis.	188	Yes.	All classes in Transportation Department.	By General R'y Surgeon.	No.	Yes. None.	No rule.	Yes.
2	Ohio Central.	525	*Yes, but not scientifically* Men required to pick out different colored worsteds Other tests very inaccurate		By Superintendent or his agent.	No,	Yes, as before stated.	No rule.	Yes.
3	Freemont, Elkhorn & Mo. Valley.	1408	Yes.	All employes in train and yard service. Same standard for all.	General R'y Surgeon, also by Eye and Ear Surgeon.			No rule.	Yes.
4	Buffalo, Rochester & Pittsburgh.	475	Yes.	Engineers, Firemen, Conductors, Flagmen, Brakemen, Switchmen, Yardmaster, Operators, Section Foremen, Foremen of Bridge gangs, etc.	By Trainmaster.	Once a year	Engineers and Firemen must have 20/20 in one eye, 20/30 in the other. Conductors, Flagmen, Brakemen, Switchmen must have 20/30 in one eye and 20/40 in the other. All others 20/40 in both eyes.	No rule.	Yes.
5	Pittsburgh & Lake Erie.	180	Yes.	Train Dispatchers, Telegraph Operators, Conductors, Brakemen, Enginemen, Firemen, Switchmen, Crossing Watchmen and Section Foremen.	General Surgeon and approved by Company Eye and Ear Surgeon.	Every two years. Re-examination made by Company Eye and Ear Surgeon.	Yes, old employes allowed to wear glasses, if defect in vision can be corrected by them.	No rule.	Yes.
6	Hocking Valley	346	Yes	Conductors, Engineers, Brakemen, Firemen and Operators. Same standard for all above men.	General Surgeon.	Every three years.	Require Perfection in all new employes. No rule about old employes.	Fifteen years.	Yes.
7	New York, Chicago & St. Louis.	523	Yes	All who use and observe signals.	Primarily by Div. Supt, special cases by special Surgeon.	Yes, every two years, or oftener if men seem to require it.	Yes, no concessions.	Ten years.	Yes.
8	Long Island.	379	Yes	Trainmen., Enginemen, Switchmen, Towermen, Flagmen.	General Surgeon.	Every two years.	Yes.	Three years.	Yes.
9	Rock Island & Peoria	123	Yes	Engineers, Firemen, Brakemen, Baggagemen	Both.	If thought necessary.			Yes.
10	Fitchburg.	450	Yes.	All men in train service having to do with signals.	First by employee. Then by Specialist if necessary.	Every two years.	Yes, if vision can be made satisfactory by glasses, they may be used.		Yes.
11	Wabash.	2275	Yes.	Employes engaged in moving trains.	General Surgeon.	No rule.	Yes. No concessions.		Yes.
12	Grand Rapids & Indiana.	590	Yes	Engineers, Firemen, Conductors, Brakemen. Switchmen and Baggagemen	Eye and Ear Surgeon.	Every three years	Yes.		Yes.
13	Michigan Central	1662	Yes. (Eyes)	Men in engine and train service	Railroad officer.	If defect is noticed.	Yes. No Concession.		Yes.
14	Omaha, Kansas City & Eastern Ry.	315	Yes.	Engineers, Firemen, Conductors, Switchmen, Brakemen. Same standard for all. . .	Eye and Ear Surgeon,	No regular re-examination.	Yes. No concessions. In case of defect other employment is given.	One year.	Yes.
15	Central Vermont	513	No.	Men in train and yard service examined by Transportation Department officers.					
16	Florida Central & Peninsular.	940	Yes.	All men engaged in train service. Same standard for all.	Eye and Eye Surgeon.	Re-examination annually, oftener if necessary.	No concessions.		Yes.
17	Yazoo & Mississippi	969	Yes	All men engaged in train service, including train dispatchers and telegraph operators.	General Surgeon.	No regular re-examinations.	Yes. Some concessions with old employes.	Five years.	Yes.
18	Minneapolis & St. Louis.	504	No.	Engineers. Firemen. Conductors and Brakemen.	Train Master.		Yes, for new men.	No rule.	Yes.
19	Chesapeake & Ohio.	1376	No.				We require perfect vision and hearing in all employes.		Yes.
20	Rio Grande, Sierra Madre & Pacific.	160	Yes.	All whose duties require them to use signals, flags, lights, etc.	By General Surgeon and one other appointed by Government.	No.	No exceptions.	Three years.	
21	Cincinnati New Orleans & Texas Pacific	336	Yes.	Conductors, Engineers Firemen, Brakemen and Operators All in same manner.	Employe	We do, every three years	Require perfect vision, color sense and hearing in new employes. Color test made by requiring men to pick out different colors.		Yes.
22	Chicago, Terminal Transfer.	208	Yes.	Train and Enginemen	By Supt. or Train Master.	Not unless we have reason to believe employes eyesight or hearing is failing.	Require men to be able to distinguish colors of our signals and to have good hearing.		Yes.
23	Wheeling & Lake Erie.	462	Yes	Engineers, Firemen, Conductors, Brakemen, Yard Masters, Station Agents, Telegraph Operators. All persons in any way concerned in the movement of trains or handling of signals. Same standard for all classes.	By Division Superintendent.	Every two years.	An average of 75% is required. When applicant stands less than 50% in sight, color sense or hearing, though he be perfect in the other two he is rejected.	Ten years.	Yes.
24	Ft. Worth & Rio Grande.	142	No.					Five Years.	
25	Lehigh Valley	1402	Yes.	All train and yard employes.	First by instructed employe Doubtful cases by Chief General Surgeon.	Re-examinations at stated intervals required for heavy users of tobacco or for progressive ocular diseases.	New employes must be perfect. Old employes are passed on 20/20 one eye, 20/40 in other, with good range and field.	About ten years.	Yes.
26	Ohio Southern	215	Yes.	All engaged in giving or interpreting signals.	By Railway Employe.	General re-examination every two years.	New men required to be perfect. Some concessions to old employes.	Ten years.	Yes.
27	Baltimore & Ohio.	2205	Yes.	Same standard for all engaged in giving or interpreting signals.	By Medical Examiner of Relief Department.	Every two years in *Ohio*, in other states, as indicated by Gen. Mgr.	Perfect eyes and ears of Firemen, when entering service. All other train men must have normal vision in one eye and 20-30 in the other. In case of old employes, each case is considered on its merits.	No rule.	Not in case of trainmen.
28	Philadelphia & Reading & Atlantic City.	1080	Yes in certain classes.	Enginemen, Firemen, Crossing Watchmen, Yard Corps, Brakemen, Yard Masters, Conductors, Train Baggagemen, Car Runners, Car Couplers and Engine Wipers. There are two standards for acuteness of vision, otherwise the same standard	By Relief Association.	Every three years.	(a) Yes, except that two standards for acuteness of vision are required, according to [illegible]	Five years.	Yes.
29	Santa Fe Pacific.	818	Yes.	All engine, train and yardmen, crossing watchmen and signal towermen must be examined. Same standard for all.	Eye and Ear Surgeon.	*Re examinations every two years.*	1st—Yes. 2nd—Certain concessions are made to old employes where there is no danger.	*No Rule*	Yes.
30	Chicago and [illegible]	648	Yes.	Engineers, Firemen and Trainmen.	R. R. Employe.	Yes once a year.	Require Perfection.	Five years.	No not on train or engine service.
31	Cincinnati & Northern.	402	Yes.	Engineers and Conductors.	Eye and Ear Surgeon.	Every two years.	Perfection required.	Five Years.	Yes.
32	[illegible]	1156	No.					Fifteen years.	Yes.
33	Atlantic Valdosta and Western.	114	No, new road, but owing to your circular will have examinations made at once						
34	Cincinnati Portsmouth & Virginia	215	No.					Three years.	Yes.
35	Atlantic Coast Line.	1716	Yes.	Engineers, Conductors, Brakemen and all employes using flag and lantern signals. All employes of transportation service.	Medical Examiner and Relief Department.	Not yet, but probably will soon.	Vision must equal 20/30. Hearing must equal 12 feet for whispered voice.	No rule.	
36	Mobile & Ohio.	[illegible]	Yes.	All engaged in transportation service and giving and interpreting signals. Station agents, Telegraph Operators, Station Baggagemen and Crossing Flagmen. Will be accepted with 20-40 of vision in one eye and with 20-20 in the other, or with 20-30 of vision in each eye.	Railway Surgeon.		Yes, for new employes.		
37	Denver & Rio Grande	1666	Yes.	All men engaged in train service and who have to do with giving or interpreting signals. Same standard for all.	Usually by the Eye and Ear Surgeon. Never by a non-medical man.	Re-examination on promotion and where suspicion of sight or hearing is aroused.	Perfect eyes and ears required in both old and new employes.	Not considered.	Yes, in special cases.
38	Minneapolis St. Paul and [illegible]	1253	Yes.	Same standard for all employes and all are required to be examined.	On entering service by Railway Surgeon. On promotion to an engine by Eye and Ear Surgeon.	Once in two years by Eye and Ear Surgeon.	Yes. Not much concession to old employes and none when on engine.	Seven to ten years.	Not on engine nor train service.
39	Mexican International.	744	Yes.	Conductors, Brakemen, Engineers and Firemen.	Railway Surgeon.	No.	Require good eyes and ears and make no concessions.	Five years.	Only for reading.

40	Grand Trunk	4186	Yes after May 1, 1900	Enginemen and all trainmen. Same standard for all.	General Surgeon.	Not determined.	Not determined.	Ten years.	
41	Southern Railway.	6415	Yes.	Those employed on train service.	Railway employe. In case of doubt the Railway Surgeon.	No.	Perfection in all.	No Rule.	
42	Galveston, Harrisburg, San Antonio.	1064	Yes.	Same standard for all men connected with operating department.	Railway Surgeon.	Not Yet.	Yes.	Two or three years.	Yes.
43	Texas & New Orleans.	343	Yes.	Same standard for all men connected with operating department.	Railway Surgeon.	Not yet.	Yes.	Two or three years.	Yes.
44	New York, Texas, & Mexican & Gulf Western, Texas & Pacific	225	Yes.	Same standard for all men connected with operating department,	Railway Surgeon.	Not yet.	Yes.	Two or three years.	Yes.
45	Norfolk & Western.	1551	Yes.	All connected with train service. Same standard for all.	First by Division Supt. These reports are sent to Company Surgeon. Defectives are then sent to Eye and Ear Surgeon.	Yes, every two years, and oftener if necessary.	Require perfection. Some concessions made to old employes, especially those who have been injured in the Company's service.	No rule.	Yes, except firemen or brakemen.
46	Canadian Pacific.	7251	No.				Do not employ or continue in service any man known to have defective eyes or ears.	No rule.	Yes.
47	Cleveland, Cincinnati, Chicago & St. Louis.	2300	Yes.	All connected with train service. Requirements vary in accordance with responsibility of duties.	By railway employe. Reports sent to Eye and Ear Surgeon Doubtful cases are sent to Eye and Ear Surgeon.	Every two years and when deemed necessary.	Standard varies in accordance with the responsibilities of duties.		Yes.
48	Chicago & Northwestern	5096	Yes.	All engaged in operating trains or in giving or interpreting signals. Requirements vary in accordance with responsibilities.	By Railway Surgeon.	No.	Require perfection on entering service. Some concessions are made to old employes	No Rule	Yes.
49	Chicago, Rock Island & Pacific.	3562	Yes.	All engaged in train service and in giving and interpreting signals. Same standard for all.	Usually by Eye and Ear Surgeon,	Every four years and when deemed necessary.	Require combined vision of 20-20. Neither eye must have a vision of less than 20-70 which must be reached without glasses. Color sense and hearing must be perfect No concessions		No, except for reading.
50	Chicago, Rock Island & Texas.	121	Yes.	All engaged in train services and in giving and interpreting signals. Same standard for all.	Usually by Eye and Ear Surgeon.	Every four years and when deemed necessary.	Require combined vision of 20-20. Neither eye must have a vision of less than 20-70, which must be reached without glasses Color sense and hearing must be perfect No concessions		No, except for reading.
51	El Paso & North-Eastern Railway.	204	No.						
52	Vandalia Line	507	Yes.	All engaged in train service and in giving and interpreting signals. Same standard for all.	By employe. If defect is found, man is sent to Eye and Ear Surgeon.	Once a year.	Perfect eyes and ears in new men Old employes may wear glasses if defect can be thus overcome	No rule.	Yes.
53	Chicago and Great Western.	1024	Yes.	*Engine and train men and yard men.*	*Railway employe. Doubtful cases sent to Company Surgeon or Oculist.*	*Yes, as men in the service get to about fifty years of age.*	*Perfect in new men. 70% in old employes.*	Six or seven years	No.
54	Mexican Central	1955	Yes.	All in train service. Same standard.	General Surgeon	Yes, when defects are suspected.	Require perfection.	No Rule.	No.
55	Oregon Short Line.	1476	Yes.	All men in operating Department.	Eye and Ear Surgeon.	Every two years.	Yes, concessions made to old employes, where such concessions are not dangerous	Two years.	
56	Southern Pacific.	5783	Yes.	All train and station men. Practically same standard for all.	General Surgeon	No.	For Engineers, Firemen Signal tower men Switchmen 20-20 in one eye and 20-30 in the other is required for all others 20-30 in each eye or 20-50 with one eye if the other is 20-20	All actual employes.	Yes.
57	Pennsylvania Lines West of Pittsburg.	2672	Yes.	All having to do with signals.	Railway employe, supervised by Company Oculist.	Every two years.	New employes must be perfect. Old employes allowed some concessions according to position held.		Yes.
58	Colorado & Puget Sound R. R., Pacific Coast R. R., Port Townsend R. R., and Seattle & Northern R. R.	210	Yes.	Conductors, Brakemen, Yardmen, *Engineers and Firemen.*	By Company General Surgeon.	Re-examinations not re*quired unless circum*stances require them.	Perfection for new men entering *train, yard or engine service.*	Five years.	Yes.
59	New York, Philadelphia & Norfolk.	112	No.		Nothing but a general superficial examination is made such as by a careful personal scrutiny.	No.	As before stated.	No rule.	Yes.
60	Atchison, Topeka & Santa Fe.	4736	Yes.	Men who give and receive signals.	Always by a surgeon, sometimes by Eye and Ear Surgeon, sometimes by local Surgeon.	If examination is not satisfactory, the man may be ordered to report again in six months.	Perfect for red and green. One eye must be perfect and the other not less than two-thirds.		Yes, when reading.
61	Wisconsin Central.	858	Yes.	All classes of employes connected with train service.	By General Surgeon	Every six months, or when deemed necessary.	Yes, as to new employes. If old employes can have sight made normal by use of glasses we allow it.	No rule.	Yes.
62	Great Northern	4969	Yes.	All employes in train service and Section Formen are required to pass visual and aural examinations Operators examined on eyesight Same standard for all.	By employe and submitted to Surgeon for approval	No, unless there are indications of defect.	Yes, old employes permitted to wear glasses if vision can be made *normal by their use.*	Five years.	Yes, as before given.
63	Illinois Central.	3780	Yes.	All engaged in operating trains or in giving or interpreting signals. Requirements vary in accordance with responsibilities.	By Railway Surgeon.	No.	Require perfection on entering service Some concessions are made to old employes.	No rule	Yes.
64	Gulf, Colorado & Santa Fe	1088	Yes.	All Train and Enginemen, Yardmen, Agents and operators.	By Railway Surgeon	Only when some defect is suspected.	Perfection required in new men. In old employes, vision if 20-40 passes. Perfect hearing in one ear and ½ in the other.	When once in service	Yes.
Total Miles		90,950							

the proper standard. My personal views on this matter are materially changing by experience and observation. I am fast coming to believe that the standard of distant vision by a railway employee actively engaged in operating a train should be reached without glasses. It certainly may well be questioned whether dirty, foggy and smoky glasses are safe adjuncts to vision before the eyes of an engineer or fireman, who peers into an uncertain atmosphere, with a train going at the rate of fifty miles an hour. The writer knows of instances where glasses are laid aside under such circumstances, the employee feeling that while his own vision is poor, it is better unaided than when encumbered by glasses such as have just been described. The question of glasses breaking or being mislaid during the progress of a trip must not be forgotten, and it certainly is no argument in favor of such a train employee wearing glasses.

One road says that glasses on a train may be used only when reading. This is rather an unnecessary remark, as it surely is a necessity to allow men to use reading glasses on trains, as most orders come in written or printed form, and must often be read by a man of 45 or 50 years of age or more, who can not possibly read without glasses. Seven roads specifically state that they do not allow distance glasses during train duty when such glasses are necessary to bring vision up to the proper standard.

Thus it will be seen that on all points bearing on the visual and aural capacity of railroad employees there is much diversity of opinion on the part of the employer and the employed, and also on the part of railway surgeons and eye and ear surgeons themselves. This is unfortunate, and precludes the probability of meeting on mutual ground, and formulating rules that shall be safe, and yet not extreme nor Quixotic.

I beg leave to submit some practical suggestions along these lines that appear to me to be just and equitable. If members of the Section entertain different views, it is to be hoped they will be mentioned, and that a discussion will enable the Section to formulate principles regulating this matter, that will be a true reflection of the opinion of a representative body of eye and ear surgeons, and which it is hoped will have some influence in molding the regulations on this important subject.

1. The essential principle to be advocated is that railroad corporations shall require a scientific and correct entrance examination of the eyes and ears of those employees at all to be concerned with the active operating of trains, or in giving or receiving signals.

2. Such examinations are best made by regularly appointed eye and ear surgeons. But if such a course is not deemed advisable, the company surgeon, aided by his medical assistants, may conduct them, with the understanding that all doubtful cases shall be sent to a regularly appointed eye and ear surgeon. Non-medical men shall never conduct the examinations.

3. There shall be two general standards of visual and aural requirements, viz., those for new men hoping to enter the service, and to be actively engaged in the operation of trains, and in giving and receiving signals, and secondly, those men engaged in similar work, who have been uninterruptedly in a company's service for five years, and who have, therefore, a right to be called old employees.

4. New men shall be required to possess perfect color sense. They shall also have a vision of 20/20 in each eye, without glasses, and have healthy eyes, and not over two diopters of hypermetropia. They shall also hear the whispered voice at 20 feet in a quiet room, and have healthy ears.

5. For purposes of graduated requirements old employees shall be subdivided into two classes as follows:

Class A.—Engineers, firemen, conductors, brakemen, switchmen, signalmen, switch tenders, and engine dispatchers.

Class B.—Track foremen, bridge foremen, crossing flagmen, bridge tenders, gatemen, train baggagemen, telegraph operators, station agents, and station baggagemen.

Employees enumerated in Class A shall not be retained in such positions if vision sinks below 20/30 in one eye and 20/40 in the other, or if the whispered voice cannot be heard in a quiet room at 15 feet by one ear and 10 feet by the other. Employees enumerated in Class B shall not be retained in such positions if vision sinks below 20/40 in one eye and 20/50 in the other, or if the whispered voice can not be heard in a quiet room at 10 feet by both ears. Employees, and especially engineers and firemen enumerated in Class A, must reach the visual standard without glasses and will not be allowed to wear distance glasses when on duty. Employees enumerated in Class B may reach the visual standard with glasses, and will be allowed to wear glasses when on duty, and will be required to do so if the wearing of glasses is necessary to bring vision up to the proper standard. All the employees shall have perfect color sense.

6. Re-examinations shall be made of all men every three years, and after a severe illness, or accident, or any occurrence which seems to cast doubt on the visual or aural capacity of an individual. Re-examinations shall also be made more frequently on men known to be excessive users of tobacco, or to be suffering from syphilis, albuminuria, diabetes, or acute or chronic eye and ear disease. Men shall always be examined before promotion.

7. Men known to be excessive users of liquors shall not receive employment.

It would seem as if these rules were sufficiently comprehensive and liberal to be adopted by any railroad; at the same time they are believed to be sufficiently stringent to exclude dangerous eyes and ears from the service. They will, of course, exclude a certain proportion of old employees from their accustomed occupation, but this is of small moment compared to hazarding the lives and property of the public by the retention in service of physically incompetent men. Railroads can always, if they choose, lessen the disappointment of an old employee, by transferring him to some other and less hazardous position, with a liberal salary.

I desire to emphasize what was said in Rule 2 concerning the appointment of examining eye and ear surgeons. I believe it is best that such examinations should be made directly under the supervision of eye and ear surgeons. Ophthalmology and otology have advanced with such strides that no general surgeon can keep well informed on these subjects. An examination of the color sense is by no means the simple matter that some would have us believe, and examinations for vision, the field of vision, and ocular and aural functions and diseases require the services of one especially skilled in such matters. The argument is frequently used that in large railroad systems, the work would be too ponderous for any one man. This is true, but now-a-days skilful oculists and aurists may be found in every city of a few thousand inhabitants, and appointments in different places might be made, and the work properly performed, with but little expense. However, I have no desire to draw the lines too tightly on this subject, and I believe that general satisfaction to all interested in this subject would be accomplished, if such examinations were *never made by non-professional men,* but by the general surgeon, or his medical assistants, and that an eye and ear surgeon should be appointed on each road, who should outline the details of these examinations and to whom all doubtful cases should be promptly sent.

Referring to Rule 3, that treats of perfection required in new applicants, it would seem as if there could scarcely be a doubt as to the advisability of rigid requirements for those hoping to become employees, and yet some ultrapractical railroad men and general surgeons believe that perfect eyes and ears are unnecessary requisites for such applicants. The world is full of healthy men possessing perfect eyes and ears; therefore, while a railroad is under no possible obligations to primarily employ a man, why should they not secure men of this standard, and at least start right. This is not only an act of justice to the road, which certainly possesses the right to demand the highest physical standard in an entering employee—for it is expected to make many physical concessions later on—but it is also an act of justice to the man, who enters railroad service with hopes of advancement in mind, but whose ambitions may be harshly dissipated later in life, when eyes and ears, barely sufficient to admit him to service under an inferior standard, diminish in power, until, at a crucial period in the man's life, when about to realize his hopes, these organs prove incapable of standing the required test. While, therefore, I am heartily in favor of making all possible concessions to old employees at all compatible with safety, believing that age, experience, familiarity with routes, judgment, etc., compensate to a degree for somewhat defective eyes and ears, I am positive that the standard should be perfection for those applicants hoping to enter the service of a railroad corporation for the first time.

Concerning Rule 4, and the possession of an applicant of more than two diopters of hypermetropia. This is a point that is rarely taken into consideration in initiatory examinations, and yet the suppressed hypermetropia of early manhood often plays an important rôle later in life, in the exclusion of old and trusted employees from active duty. Ophthalmologists are familiar with the fact that considerable hypermetropia may be suppressed by an active ciliary muscle during youth, and a vision of 20/20 or more be apparent during a superficial examination. But railway officials and surgeons are perhaps not so well acquainted with these data, and with the fact that in later life, with the decadence of ciliary activity, the lack of visual power becomes manifest and the use of glasses necessary to reproduce normal vision. Therefore, it would certainly seem desirable that no man should enter railway life expecting to be engaged in active transportation service, possessed of such a handicap. This point would seem to be one of the strong arguments in favor of ocular examinations being made by oculists, as one unfamiliar with such work would find the detection of latent hypermetropia rather difficult to accomplish.

Concerning Rule 5, it seems eminently proper that from an ocular and aural standpoint, employees should be divided into two classes, according to the responsibilities of their duties and their prospective occupations by promotion. An effort has been made to do this under the two classes A and B. Those old employees in Class A, owing to the importance of their positions, are never allowed to sink so low in the requirement scale as those of Class B. It certainly seems no more than just to the safety of the traveling public, that the eyesight of an engineer, fireman, conductor, etc., should not be lower than 20/30 in one eye and 20/40 in the other; that this vision should be obtained without glasses, that are objectionable for the reasons previously mentioned, and that the hearing should not be less than the perception of a whisper by one ear in a quiet room at 15 feet, and by the other at 10 feet. At the same time an old employee in Class B, such as a baggageman, telegraph operator, station agent, etc., would undoubtedly be perfectly safe with the requirements already enumerated.

Concerning the aural capacity of old employees, it seems inadvisable to make rules of excessive stringency covering this point. Very little work in transportation service is done by the voice; it is almost all done by signals, and the possession of good hearing is often a matter of no importance whatever. For instance, conversation on an active engine is practically impossible, and it is not inconceivable that a deaf engineer or fireman might be quite capable of being an efficient employee. Still, such laxity is evidently undesirable, and it is believed that the limits referred to under Rule 5 will be just to all concerned. The Railroad Commission of Germany declares unreservedly that as long as a man is capable of hearing an ordinary conversational voice, he is quite competent to work on an engine; and as engineers, firemen, etc., who work constantly amid the noise, dirt and exposure of an engine, which becomes emphasized on mountainous and tunnelled roads, are quite apt to lose their acuteness of hearing, somewhat after the manner of boiler-makers, every possible concession should be made to them.

Referring to Rule 6, and the subject of re-examinations, it may be said that if a railroad deems it at all advisable to carefully test men on entering the service, they should consider it equally necessary to enforce re-examinations at stated intervals, of which three years seems to be a fair compromise. It is unnecessary to dwell on the fact that serious eye and ear defects are liable to occur in much less time than three years, but of course some chances must necessarily be taken, and it is believed that, with enforced re-examinations every three years, and whenever through accident, illness, overuse of tobacco, promotion, etc., such re-examinations are thought advisable, reasonable safety will be assured the traveling public, as far as the eyes and ears of railway employees are concerned.

I desire to mention two practical points in testing vision for railway purposes, that are not always observed, *and that have much bearing on the subject. One is to* see that applicants and employees are tested with a considerable variety of test cards, as men become familiar with a limited number, and sometimes memorize them, and pass such knowledge on to their comrades. Another point is to have the test cards always lighted by uniform and ample illumination. For instance, I can always secure a little better vision in my private office, where the test cards are illuminated by shaded electric lights, than a railroad surgeon can in his office, where such conditions do not prevail, and have several times had my results questioned, probably on this account. Besides this, test letters are by no means of uniform size, and I believe that this element may also have considerable to do with unsatisfactory, unstable, and inharmonious results.

In closing this article, I beg leave to remind the Section of the great importance of the subject, for it has been estimated that there are in this country upward of 200,000 miles of railroad, employing about 900,000 men. In the year 1899, nearly 500,000,000 passengers were carried, and nearly 800,000,000 tons of freight. In the same year nearly 2000 employees were killed, and about 32,000 injured. Nearly 4700 passengers were killed and 6200 injured.

In the face of such facts, no apology is needed for honest and persistent efforts tending toward the uniform adoption of proper and scientific requirements from railroad employees by railroad employers.

DISCUSSION.

DR. C. H. WILLIAMS, Boston—I am sorry Dr. Allport's list does not include three of the large railroad systems where some of the most careful examinations of the vision and color-sense of employees are now being made. I refer to the Pennsylvania lines east of Pittsburg and Erie, concerning which Dr. Thomson can tell us later, the Chicago, Burlington & Quincy system and the New York, New Haven & Hartford system. For about six years, from 1889 till 1895, I was medical director of the Burlington system, and, among other duties, had charge of putting in operation the tests they are now using, and a little more than a year ago I was requested by the New Haven road to instruct their examiners and to draw up a set of rules to govern these examinations, so that I am familiar with the work which is being done on those two roads. On the Burlington system the tests are made by the physicians of their Relief Department, who have been carefully instructed in regard to the methods to be followed. *All material for the tests is furnished* by the company, to ensure uniformity, and is inspected from time to time to make certain that it is kept in good condition. The report of every examination is sent to Chicago for final approval by the medical director, which serves as a check on the thoroughness of the work, and any doubtful cases are referred to him.

On the New Haven system the examinations are made by employees selected by each division superintendent. These examiners are first tested to see if their vision, color-sense and hearing are up to standard; they are then carefully instructed by an expert in regard to the methods of making these examinations and are furnished with a set of rules to govern the tests and a set of blanks for recording the results, all these reports being sent to the office of the general superintendent for file, and any doubtful cases being referred to an expert for further tests.

On the Pennsylvania system these tests are also made by nonmedical men, and although I believe it is better, where possible, to have these examinations made by trained physicians, and to have them include not only the tests for vision, etc., but also the heart, lungs and general physical condition, especially of men applying for work; yet, when this can not be done, the vision tests can be made very satisfactorily by intelligent men selected from among the employees, provided they are properly *instructed, are furnished with suitable apparatus and rules to* govern the work, and some provision is made to refer any doubtful cases to an expert. With a well-devised sys[illegible] examination by trained employees is l[illegible] give m[illegible] ter results than when made by ph[illegible] have special training for this work, or who are not supplied with suitable apparatus for making the tests.

The instructions of the New Haven road at present provide for the following standards of acuteness of vision: "Class A, enginemen, firemen, towermen and drawer tenders, on entering the service or promotion, 20/20 in each eye without glasses. Class B, conductors, brakemen, switchmen and others who are required to pass a visual test, on entering the service or promotion 20/20 in one eye and not less than 20/40 in the other, without glasses." For the re-examination of the men in the different branches of the service at stated times a different standard is required; for "Class A, not less than 20/30 with both eyes open without glasses," and for "Class B, not less than 20/40 with both eyes open without glasses."

The acuteness of vision is tested not only with cards on which are printed letters subtending the standard angle of five minutes, but also with some cards which I prepared for the New Haven road, on which are printed small semaphore arms of such size that the length of the arm at twenty feet subtends a visual angle of five minutes, and the width of the arm an angle of one minute; this corresponds to the apparent size of a standard semaphore arm when seen at a distance of 2600 feet, which would be sufficient for railroad work. It is found, by using these cards, that men can read easily the position of the semaphore arms at 20 feet who have only 20/30 of average normal vision, for the position of the signal at danger (horizontal) or at safety (inclined) can be seen much more easily than the difference between such letters as O, C, D, etc., and a man who has 20/30 or better when tested by the letters can read easily the signals at the required distances. In fixing the above standards of vision the object has been to require for entrance to the service, or for promotion, in those positions where good eyesight is essential, such a standard as will ensure 20/20, or the average vision of normal eyes, and for men in other positions, to require this *in one eye and at least one-half of this in the other.* For the re-examination of men in the service who have become familiar with their duties, and by reason of their experience are more valuable employees, a lower standard has been fixed which was considered safe for a continuation of such work. In connection with the test for vision, I wish to say a word in regard to the necessity for using both the lantern, properly arranged, and the colored worsteds, in making the test for color-sense. We must keep in mind the fact that both in railroad and marine service it is necessary not only to distinguish colors which are spread over a considerable surface, as in a signal flag, but also to read the color of a distant signal lamp which is focused on a very small central portion of the retina, and a number of cases are found where the color of flags or test-worsteds can be seen well enough to pass the tests, but where the central area of the retina is impaired in its color-perception over a space large enough to prevent it from seeing accurately the color of a distant signal lamp. Such a test has been used for many years in Holland, and for more than a year the New Haven road has been using an improved lantern which I designed for them, which has been very satisfactory, and at a later session of this meeting I hope to have the pleasure of showing you the latest form of this lantern.

Dr. Albert E. Bulson, Jr., Fort Wayne—I am very glad to hear Dr. Allport say that he does not approve of trainmen wearing glasses for distant vision; I fully agree with him. About one year ago an old engineer on the western division of the Pennsylvania railroad was operated on by me for double cataract, the result with cataract glasses being practically 20/20 vision in each eye. An application for a position as yard-engineer brought an enquiry from the railroad officials as to the amount of vision, and asking for an opinion as to the propriety of allowing the applicant to wear glasses while on duty. While admitting that the applicant had the required acuity of vision in each eye I did not advocate allowing employees in the train service to wear glasses, as the steaming and frosting of the lenses at certain times would render them useless, so far as obtaining satisfactory vision through them is concerned. This same opinion was advanced in the case of another engineer who had but 20/50 vision in each eye without glasses, and 20/20 vision in each eye with glasses.

As to testing the vision of railroad employees I believe intelligent *railroad officials can, if properly coached,* make as satisfactory examinations of the vision, both for acuity and color-perceptions, for all practical purposes, as nine-tenths of the medical men.

Dr. C. F. Clark, Columbus, Ohio—We have with us a pioneer in this work, Dr. Thomson, of Philadelphia, who over twenty years ago established a method on the Pennsylvania road and issued instruction under which the examiners should work, and I have for sixteen years been working under that system. I do not know that the Doctor now has any reason to criticise that method, and it has been in operation long enough to test it. Dr. Allport has called attention to one point that might perhaps be improved, and that is in always having the first examination made by an oculist. I can not help thinking it is a mistake to allow non-medical men to make the first examination, for if the preliminary examination was made by an oculist he might often detect conditions, which, while not interfering with a man's ability at the time, would indicate that he would not be able to continue in this as his life work, whereas in some other line of work he would be worth twenty or thirty years of good service. The railroad men are better able to determine a man's ability to remain in his position than they are to determine his ability to enter the service.

Dr. William Thomson, Philadelphia—I have been so much pleased with Dr. Allport's paper that I would like to make a motion to extend to him, as we did to Dr. Hansell, the thanks of this Section for such an excellent report. (A vote of thanks was adopted.)

Of course, as some of you know, long before 1880 this was a burning question, and my old colleague, Dr. Jeffries, of Boston, and myself were quite obnoxious to the railroad people of the country, if not to the American Ophthalmological Society, for the manner in which we pressed the question of color-blindness. When the matter was presented to me by the Pennsylvania Company in 1879 to see if I could invent some method of practical examination, I found that we could not employ the medical men then in the service of the railroad. That led to the adoption of the system in use there since 1880.

Dr. Allport has given us an eloquent account of what would take place in the examination of a road where there was a large number of employees never before tested. Three or four per cent. of color-blind and perhaps 25 per cent. of the men showing poor vision would be found. This method of the Pennsylvania Railroad system has been adopted by many roads, which I think control about 150,000 miles. I would simply say in behalf of the method that it was a pioneer move intended to take the place of nothing, and I hope it has been somewhat effective in protecting the public and the employees from the disasters of accidents until the present time, when this agitation that Dr. Allport has taken such a good part in bringing about may offer something better.

I agree with Dr. Allport that the examination should be in the hands of oculists wherever possible. Dr. Williams shows us that his road, using the Pennsylvania Railroad method, has made him the examining oculist, for all doubtful cases are referred to him, but if we can formulate something better Dr. Williams and I will both be glad to call the attention of our railroad officials to these points. Now, while Dr. Allport thinks that no examinations should be made by non-professional persons, we have the distinguished example of Dr. Allport *himself in his excellent system of examinations* of school children where the teachers are trusted to make the original examinations.

Dr. C. H. Williams, Boston—I should like to say that your Section appointed a Committee at the Philadelphia meeting to consider the question of the vision of railroad employees, which practically deals with this same subject. That Committee reported in Denver, a majority and a minority report, and the matter was referred back to the Committee, which was enlarged from three to five members, Dr. Allport being chairman. The Committee decided not to report this year, because the subject is coming up for discussion at the International Congress this summer in Paris and it was thought best to wait until we had a chance to go over the findings of that International Committee before making a final report. It would seem to me best to refer this paper to the existing committee and let them report on it next year

Dr. Lippincott—I accept Dr. Williams' suggestion.

The Chairman—Then the paper will be so referred.

Dr. J. A. Lippincott, Pittsburg—I would move that the paper of Dr. Allport be referred to a committee, appointed by the Chairman, who shall use it as a basis in drawing up some practical resolutions to guide us in this work.

Dr. Allport, closing the discussion—I desire to say that we all surely bow to our friend, Dr. Thomson, in matters pertaining to this subject, as he certainly has accomplished more than any one along the lines referred to in my paper. If I failed to mention Dr. Thomson's name in my article when drawing some of my conclusions from his writings, it was because we are all so familiar with his work, and feel it to be of such a standard character, that it hardly seems necessary to go on quoting him whenever an article is written on this subject. I wish to thank the Doctor for the kind words he has said concerning my paper, and am delighted to learn that it coincides with his views, especially concerning the opinion that the time has arrived when eye and ear examinations should be made by medical men. Dr. Thomson certainly makes an apparently reasonable argument when he refers to the fact that I advocate the examination of school children by teachers, but do not recommend the examination of railroad employees by non-medical men. It certainly seems to be a lack of harmony between two views, but I think a careful analysis will disclose the dissimilarity between the two conditions. School children should be annually examined in enormous numbers. For instance, during the last few weeks in Chicago the five thousand school teachers in the city have examined about two hundred and fifty thousand children. The expense involved in such examinations by medical men would be an insurmountable obstacle to the work being ordered by the various boards of education, besides that, the examination of children by physicians, concerning whose selection parents have nothing to say, would create a storm of opposition from the ranks of the laity, and I am sure we all, as medical men, understand that the selection of certain eye and ear surgeons to examine every child in a city would engender professional strife and jealousy sufficient to stop the whole proceeding. Then the dangers involved between the examination of school children and railway employees are not at all similar. The preservation of life and property is vitally involved in the examination of railroad men, which certainly is not the case in the examination of school children. These and other arguments which might be produced appear to me quite sufficient to demonstrate that, while I believe eye and ear examinations of the character which I recommend can be made with sufficient accuracy by school teachers, where defective children are always advised to consult a medical man, the examination of railway men can only be made with safety by physicians.

Dr. Williams expresses some dissatisfaction that the three roads with which he is connected are not included in my statistics. I beg leave to assure the Doctor that no one regrets this more than I. I desire to say, however, that it is not my fault. Letters of inquiry were sent to these three railroads with question blanks enclosed, and they were earnestly requested to assist me in completing the statistics. They, however, saw fit to ignore my letters, and, of course, I could not compel them to reply. I sincerely hoped that every road in this country would reply to my letters, but many of them have not done so. I think that after the interest that has been expressed in this paper by the Section, I will in the course of the next year endeavor to secure reports from those roads that have not reported, in order to be able to present complete statistics on the subject.

Dr. Williams thought that switchmen, and some other employees directly interested in the moving of trains, should not be required to possess perfect vision on entering the service. I can not agree with the Doctor on this point. I see no reason why railroads should not require perfect eyes and ears from men when they for the first time enter their service. There are plenty of men seeking railroad employment and it is not a difficult matter to secure those in reasonably perfect physical condition. Probably no one enters railroad service without ambition, and without the hope of advancement. The switchman of to-day hopes to be the fireman or the engineer of to-morrow. Why, therefore, is it not an unnecessary injustice to both the railroad and the man himself to voluntarily select a man below a perfect standard? I can see the force of the argument in favor of great leniency toward old employees, but I can not understand Dr. Williams' position. Dr. Williams also says that 20/20 of vision, with both eyes open, should be considered sufficient. This argument is to me even more inexplicable than the other; for however good vision may be in one eye, the other eye may be extremely defective, lost, or even glass for that matter, which should, I think, certainly disqualify a man from assuming the charge of an engine run at the rate of 40 or 50 miles an hour. Concerning the semaphore arm, we must bear in mind that this is not the only signal used on the railroads, even where the semaphore is adopted. There are many railroads in the country where the semaphore signals are not used at all. If we are to make recommendations that are to be adopted by railroad and medical men, we should make them of such a character that will be consistent and usable on the roads. The opinion has been expressed that non-medical men are competent to make these tests. I can not agree with this view. We know that this system has been used on the Pennsylvania road and on other roads, and we also know that excellent work and results have been achieved, and at the time that this work was inaugurated by Dr. Thomson it was a great step in advance of anything that had heretofore been employed; but I think the time has arrived when we are in a position to take a step further and endeavor to bring about the physical examination of railroad men by physicians, and not by members of the laity. If I understand Dr. Thomson correctly, he himself is now in favor of this plan. If any of you have examined large bodies of men for railroad service after they have been examined by non-professional men, I am sure you will agree with me that such examinations are not safe. I remember one railroad engineer who was sent to me for examination who had been examined two or three times by non-medical examiners. He had a vision of 20/200 and had passed several so-called examinations. He told me that he had never in his life seen better than 20/200, and I have no reason to doubt his statement, as I found he was simply myopic. I obtained for him a vision of 20/20 in each eye by suitable glasses. On the same road I found between 3 and 4 per cent. of color-blind men, after they had passed the examination by non-medical men, and you will remember that this is about the percentage that we find among men who have never been examined.

I desire to thank the Section for the cordiality with which they have received my paper.

OPERATIONS FOR SECONDARY CATARACTS.

PETER A. CALLAN, M.D.

NEW YORK CITY.

It is a safe assertion that at least one-third of all cataract extractions require a secondary operation to obtain satisfactory vision. What constitutes satisfactory vision must vary with the different needs of our patients. The uncultured laborer requires less than the educated professional gentleman or business man. The laborer with a vision of 20/70 is able to earn a living and read type as he would naturally choose, while the educated man of affairs would look for at least 20/40. Even with that amount I do not hesitate to do a secondary operation, provided the patient is willing to

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* Presented to the Section on C [illegible] Fifty-fi Annual Meeting of the Ameri [illegible] A., held Atlantic City, N. J., June 5-8, 1

assume his share of the risk. When the vision is 20/70, or less, I suggest to the patient the advisability of an operation to improve the sight.

We can divide the so-called secondary cataracts into two classes, the simple and the complicated form. The former consists of hyperplasia of the epithelial cells of the anterior capsule with more or less lens matter. The complicated form has, in addition, exudate due to inflammation of iris, ciliary body, or uveal tract as a whole.

The time to operate on a secondary cataract should depend on the condition of the eye. If it has become normal in appearance and does not redden up when it is grasped by the fixation forceps, we are generally safe in our presumption that it is quiescent, and will not unduly react after the operation. Personally, I prefer to delay the secondary operation for a period of months after the extraction, rather than run any unnecessary risk by undue haste. In all surgical procedures there is the ever-present danger of infection, due to surgeon, instruments or field of operation. The danger from sepsis, following an operation, ought to be of extreme rarity if we are clean in our methods of procedure; still, it does occur, with loss of eyes as the net result. It is poor consolation for the patient after the loss of an eye to learn that the surgeon thinks that the infection was introduced at the time of the cataract extraction. If such were the case there is no question but that the secondary operation was done too soon and might have been avoided by waiting. Aside from infection, the great danger is from traumatism exerted on the ciliary processes, and if this can be avoided, we can perform secondary operations without dreading an unfortunate outcome. The attacks of glaucoma and iridocyclitis, which often ensue, are in the main due to faulty methods employed or interfering too soon after the cataract extraction. We can attribute our disasters to operating too soon and exerting too much traction—in the effort to obtain a clear pupil—on the ciliary processes.

The underlying principle which ought to guide us in operating on pupilary membranes is that we should cut and not attempt to tear them. Personally, I now limit myself to two methods in operating on all forms of secondary cataracts.

When the pupilary membrane is thin and veil-like, of uniform color, without whitish bands across its surface, I use Knapp's knife-needle according to his method. Having a dilated pupil, make two incisions in the membrane; the first should be above in the horizontal plane, the second from below upward to the first, thus making a T-shaped opening. The corneal puncture is made about 3 mm. from the limbus, up and out or inward, as is necessary in the right or left eye.

If the membrane should be tough, the knife-needle does not cut, but it is likely to tear, if we exert force, and drag on the ciliary processes. I was unfortunate in using this method and lost an eye from iridocyclitis: I had made a cataract operation on both eyes of a woman of 65 years. The last extraction was about one year before I did the secondary operation. The eye last operated on had a thin web-like membrane in the upper third of the pupil, while the lower two-thirds was crossed by a white band. The upper horizontal cut was readily made, but in attempting to make the vertical incision I met with considerable resistance and must have used too much force, which resulted in the loss of the eye.

I had another case, with a better final outcome—a young man with a soft cataract, where three incisions had absorbed the lens, leaving a thin pupilary membrane, which was diagonally crossed by a narrow band, cord-like in character. In this case I did not succeed in cutting through the band with the knife-needle; I withdrew the needle, enlarged the corneal opening and introduced the forceps-scissors into the anterior chamber and readily cut the resisting band without any difficulty. A mild attack of cyclitis resulted, which kept him in the hospital for over three weeks. Patient was discharged cured.

For the past several years I have used the forceps-scissors of De Wecker, to the exclusion of all other methods in operating on thick or tough pupilary membranes, where the lens has been removed, either by extraction or absorption. I consider De Wecker's model the best. The forceps-scissor blades should be 13 to 14 mm. long from point to heel and not to exceed 2 mm. in width when closed, and the greatest thickness 1.75 mm.

In using the forceps-scissors the corneal opening should be selected so as to give free play to the instrument within the eye. With an occluded pupil make the corneal incision about 2 mm. from the limbus, but with a mobile pupil the corneal opening should be opposite the point of maximum dilatation, otherwise we are very likely to button-hole the iris. The iris falls forward with the escape of the aqueous and comes in contact with the scissor blades. In the case of children it is imperative to work quickly, otherwise the iris sphincter contracts and covers the opening in the membrane, so that it is not possible to insert one of the scissor blades behind the tissue to be cut. I find Agnew's angular keratome, which is 16 mm. long and 4.5 mm. wide, the most satisfactory instrument for making the opening in the cornea and membrane. It is long enough to reach any part of the anterior chamber where we may wish to pierce the obstructing tissues. The modus operandi is as follows: Incise the cornea at any point from 2 to 4 mm. with the keratome; then partially withdraw the instrument, elevate the handle and gently push down the point through the tissue to be cut by the scissors. The opening need not exceed 2 mm. and the keratome should not enter deeply into the vitreous. Having withdrawn the keratome, insert the blades of the forceps-scissors closed; when within the anterior chamber, open scissors and push one blade through the opening in membrane, then cut. If the tissue is tense and on the stretch, one cut is enough, but with a flaccid membrane, two are necessary in order to secure a V-shaped aperture. If we have to deal with a small occluded pupil, simply limiting our incisions to pupilary area will not be sufficient; it then becomes necessary to include the iris sphincter, if not more, in order to secure a satisfactory result. I prefer to cut the iris above, rather than below, for cosmetic effect. In operating on eyes without displaced pupils, due to prolapse or incarceration of iris, it is necessary to make three incisions with the scissors, one on each side to free the iris from the traction to the corneal cicatrix and a vertical cut through membrane and iris. The lateral incisions should be of sufficient length to free the involved part of the iris, and the amount of pupil displacement should guide us as to what length to carry the downward cut.

In nuclear, perinuclear and soft cataracts of the young, where we have made several discissions, the result is not always quite satisfactory, owing to thickened capsule containing more or less unabsorbed lens matter. The further use of a discission needle is not advisable; while it might cause some more absorption, there is still the opaque capsule. I have found the following method most satisfactory: In young children general anesthesia is imperative. With mydriasis of pupil, incise cornea opposite upper border of sphincter, insert the point of keratome about 2 mm. below upper edge of dilated pupil, through capsule and its contents. Withdraw keratome with as little escape of aqueous as is possible. Introduce forceps-scissors through corneal section; insert one blade through and behind the capsular opening; then cut downward to the iris, pushing the upper blade behind it and continue the incision almost to the periphery. In traumatic cataracts of long standing, especially of the young, where most of the lens has disappeared, and in unripe senile cataracts after extraction, leaving considerable lens fibers within the closed capsule, the forceps-scissors, when properly used, give most excellent results. When there is considerable lens matter it is often necessary to freely cut the capsule in various directions in order to remove the mass by syringing. If we are adverse to introducing the nozzle of the syringe into the anterior chamber, by depressing the posterior wall of the corneal wound, with the syringe held at an angle of 30 degrees, we can force a column of water over the opening and accomplish the same result.

It not infrequently happens that after the division of the capsular membrane it is possible to remove it, in part or the whole, from the eye, without exerting any force, and secure a clear, black pupil. This method is not without its drawbacks; we are apt to lose some vitreous, especially if it is fluid. If it is done too soon after the original operation, before the eye has fully recovered, the opening obtained will not be permanent.

In regard to Bowman's method, the use of two needles for tough membranes, while often very satisfactory results are obtained, by this means we never feel sure of the amount of traction exerted on the ciliary processes. The underlying principle of the method is faulty, inasmuch as the opening obtained through the membrane is done by tearing the tissue, and the tougher the obstruction so much greater is the pull at right angles to the movement of the needles.

As far back as the first quarter of the 18th century Cheselden performed iridotomies with a small one-edged knife, which suggested to De Wecker the forceps-scissors; by means of this secondary cataracts can be removed from the pupilary area, by cutting without any traction, with minimum of reaction as a result of the operation.

DISCUSSION.

Dr. Herman Knapp, New York—I am very sorry I did not hear Dr. Callan's paper. Thus, I shall have to begin where my predecessor left off. He believed that a simple extraction was the ideal method, but that there were many objections to it. I say the simple extraction is not only the ideal method, but the best and safest, and this is not a theoretical speculation, but the experience of over fifteen years. I can say that there is no year within that time in which I have done less than 100 extractions. I make an iridectomy only when there is a complication necessitating it.

The method which I have followed and which avoids almost altogether the thickening of the capsule, avoids also iritis, which is often the cause of the thickening. In the ordinary recovery from cataract extraction there should be no inflammation at all, but a smooth healing of a clean aseptic wound. There are, however, not a few cases where the conventional operation itself is productive of the adhesions. You rupture the capsule in a variety of ways and the lens comes out through the section, but when you look attentively at the iris you will discover many fine ruptures in its pupilary edge which are produced by the out-going lens. You do not see them any more when the lens is out and the pupil back in its place. Adhesions develop at these imperceptible fissures which come in contact with the shreds of the lens capsule. This can be avoided by passing the cystotome through the pupil under the iris and after turning it gently rupture the capsule near its periphery, parallel with the corneal section. This is not so difficult as it appears and is easily accomplished after some practice. The incision of the capsule heals by cicatrization and from the scar you see in some months or years a number of wrinkles in the capsule. By the peripheral capsulotomy the iris is kept away from the capsular wound, and the intact part of the capsule does not come into contact with any of those little fissures at the pupilary edge of the iris. Thus, we obtain a free and round pupil. When a capsule is ruptured in the form of a T—and some seem to think it unusually smart to do this; I saw also Graefe do it—this opening will heal with a T-shaped scar, from both sections of which radiating folds will develop that are unpleasant to deal with.

In regard to this peripheral capsulotomy, it is very necessary that the cystotome should be exceedingly fine, delicate, and very sharp, for there must be no tearing whatever of the capsule, nor of the iris, at any time. When we make this operation with a thin cutting point we get just as clean an incision as in the cornea, and when we dilate the pupil afterward we see the scar very distinctly.

It is not only necessary that the incision should be correct, but it is also necessary to consider the amount of resistance with which we have to deal. If the cataract is hyper-mature we are very apt to dislocate the lens. If the lens is hard, it may be turned round in the capsule; and if the cataract is too dense, we are apt to rupture the suspensory ligament of the lens, which leads to escape of vitreous, either during the operation or afterward, commonly the next day, with prolapse of the iris. The latter is likely to occur in all cases in which the suspensory ligament is frail or defective. If we can detect this condition before the operation, for instance in tremulous cataract, we do best to cut out a piece of iris immediately after the corneal section. When prolapse of iris is noticed the next day, even if it be small, it is best, in my opinion, to abscise it immediately, which can be done easily and cleanly, and the result is just as good as that of a combined extraction.

In the secondary cataract operations, we have to deal with capsules that are wrinkled and nothing else, and I think myself to be of the same opinion with all of you in believing that nothing need be done except to split it with a knife-needle, by a T-shaped or crucial incision, as the case may be. Where there is a thickening of the capsule, the best thing to do is to make the incision at the upper part through cornea and capsule, draw a piece of the latter out with a pair of delicate forceps, and cut it off.

There is a kind of secondary cataract, though, where the capsule, through inflammatory products or whatever it be, produces a dense membrane from one side to the other. If the membrane is not too tough it can be dealt with by the double needle introduced through the same opening in the center. Now, the most difficult ones are those capsules that are not only thickened, but degenerated. In those cases I have made several kinds of operations, and the one I have pursued for a length of time is the so-called cystiridectomy. I go in through the cornea, iris and capsule and take out something of this, either by the hook, which is the most convenient instrument, or by forceps. I have of late, as well as formerly, used the De Wecker forceps-scissors and their new modifications by Esberg and Schweigger. I have had some good results from this procedure, but in those cases where there is much cicatricial tissue there is no method that is entirely satisfactory, for the new pupils are apt to cl[illegible] some i[illegible] they will do this three or [illegible] are c[illegible] which I know no remedy.

I ought to say some[illegible] particular glaucoma foll[illegible]s. are much better than t[illegible] speak from a very large experience. I am quite sure my experience with this operation reaches 2000 or more cases, and I can not say that any eye has been lost. In a number of cases increased tension occurs, but it is controlled by eserin or pilocarpin and injection of morphin, and as soon as you use those remedies a great many of the irritative symptoms of the first night when the eyeball is hard, will disappear, but there are a certain number of cases where the glaucoma is not controlled by these measures and has to be treated by iridectomy. A simple paracentesis does not cure all cases of glaucoma after division as Pagenstecher asserts.

Dr. H. V. Wurdeman, Milwaukee—May I ask what is your procedure for endeavoring to make peripheral capsulotomy when you find that the lens turns?

Dr. Knapp—Those cases are rare, but the best thing is to press a little more on the cornea opposite the lower edge of the cataract. The lens then may come out through the pupil as usual, or turn about 180 degrees on its horizontal axis and you may witness a breech delivery that will please you.

SYSTEMATIC CLEANSING OF THE NASAL CAVITIES BEFORE OPERATIONS WHICH INVOLVE OPENING OF EYEBALL.[*]

J. A. LIPPINCOTT, M.D.
PITTSBURG, PA.

Operations which involve penetration of the ocular tissues, such as cataract extraction, discission, the removal of foreign bodies from the interior of the globe, and iridectomy, whether optical, therapeutic or preliminary to the removal of cataract, are sometimes followed by inflammation of different degrees of intensity, with results varying from a simple and possibly harmless synechia to a destructive panophthalmitis. A considerable portion of these unfortunate results may be prevented by a well-executed operation characterized by a sufficiently large incision, gentle manipulation, careful cleansing and accurate approximation of the lips of the wound. But the most perfect operation—from a mechanical point of view—is occasionally the first step in a series of changes which, passing through corneal infection and suppurative inflammation, terminates only with enucleation of the eye.

The measures usually taken to prevent infection have reference to the field of operation and to the preparation of the instruments. In regard to the former, the precautions generally employed, viz., conscientious cleansing of the conjunctival sac, the lid edges and the adjacent parts of the face, together with flushing of the sac with some mild antiseptic, such as a weak solution of the bichlorid or of the cyanid of mercury, are probably as good as could be adopted.

As to instruments, the modes of preparing them perhaps most commonly employed, viz., letting them remain in alcohol for twenty to thirty minutes, or holding them in boiling water for a few seconds, are not theoretically correct, i.e., they will not successfully stand the ordeal of a culture-test. Many such tests made by myself and my assistant, Dr. Joseph L. Duncan, proved that purposely contaminated knives were not sterilized after immersion in alcohol of any strength for twenty-four hours and that boiling for twenty seconds by the watch was also ineffectual. The method which I employ and which, besides being practical, stands rigid bacteriologic tests, is to keep the cutting instruments constantly immersed in a liquid consisting of formalin, 20 per cent., and saturated solution of biborate of soda. Other instruments are boiled for fifteen or twenty minutes in borax solution.

While, however, I am a purist in practice I am not disposed to question the practical efficiency of methods which may be imperfect from a theoretical point of view. You are probably familiar with the opinion of Professor Knapp,[1] expressed some years ago, to the effect that a smooth instrument like a cataract knife, if carefully washed and wiped, might be regarded as surgically clean. Furthermore, I used the alcohol method for many years and I do not believe that any case of infection which occurred in my practice was due to unclean instruments. In point of fact, I am convinced that the principal source of infection in eye operations as now generally performed is to be sought neither in our instruments nor primarily in the conjunctival sac. In a paper read by me before the American Ophthalmological Society, in 1891, occurs the following passage: "I am inclined to believe that in a considerable proportion, if not the majority, of these cases of obscure causation, the *fons et origo mali* is in the nasal chambers, from the intricacies of which, as from an almost inaccessible stronghold, armies of micro-organisms, scenting out with fell sagacity the operative breach in the cornea, crowd through the lachrymal passages into the conjunctival sac. Hence, though much has been and much can be done to minimize suppuration following operations on the eyeball, we can scarcely expect to wholly eliminate it; for although we can sterilize our hands, our instruments, and the parts surrounding the eye, we can never be sure that the conjunctival sac is, or will remain, free from germs unless we seal up the puncta, a procedure likely to be resorted to only in exceptional cases. We may, however—and it would probably be good surgery—carefully examine the nasal cavities in all cases before operating, and, where disease of this region is observed or suspected, apply a more or less prolonged preparatory treatment. Indeed, no harm can, and much good may, result from spraying the nostrils with an antiseptic solution before the operation in every case. In opposition to the view here expressed, it might be urged that nasal catarrh is a very common affection, while corneal suppuration after operation is rare. The explanation may lie in the facts that nasal catarrh usually exhibits no purulent tendency, that if there are pus germs in the nasal cavities, they need not necessarily reach the eye, and that even if they do, the invaders may be routed by those not yet well-understood agencies which fight for the integrity of the tissues."

The impossibility of sterilizing the conjunctival pouch, demonstrated by Gayet[2] thirteen years ago, is easily accounted for by the free communication through the tear-passages with so prolific a breeding-ground as the nasal cavities. Out of 100 gelatin tubes stabbed from the nostrils of adults making no complaint of nasal symptoms, 94 contained micro-organisms, among which were bacilli, staphylococci, streptococci and other forms of micrococci. Such a condition of things was to be expected, from the fact that the nasal spaces are the gateways and in a certain sense the filters through which passes or should pass all the air we breathe.

Although I have been for ten years in the habit of giving attention to the nose in cases that appeared suspicious, I did not until comparatively recently commence the method which I now employ and which is as follows: A few hours before operation, in every case, a spray of potassium permanganate, 1 to 2000, is thoroughly applied to the nostrils. In some cases the spraying is repeated imediately before the operation, and, where there is decided evidence of nasal disease, each of the three or four days succeeding it. The permanganate spray, besides not being specially unpleasant, has potency enough to destroy a large proportion of the organisms with which it comes in contact, and to lull most of the rest into a beneficent inactivity until the corneal wound is closed. This procedure has been carried out in each of my last 152 operations in which the globe was penetrated. Of these, 60 were cataract extractions, 17 were discissions, 21 were operations for the removal of foreign bodies, and 54 were iridectomies for optical purposes, for glaucoma or for chronic iritis, or were preliminary to the extraction of cataract. In these operations there was not only a complete absence of any sign of suppurative inflammation, but there was an unusual degree of freedom from inflammation or irritation of any kind, although a number of the cases were of an unfavorable nature. The wounds healed with less than the usual degree of redness, and convalescence was more speedy than in my previous experience. By way of illustration I shall cite two cases.

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[*] Presented to the Section on Ophthalmology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

[1] Transactions Am. Ophthal. Soc., iv, 195.

[2] Archives d'Ophthalmologie, vii, 353.

Case 1.—Mrs. W. Y., aged 62, had been operated on by myself for cataract affecting the right eye, in 1896. The operation, which was entirely satisfactory, was followed by corneal suppuration, hypopyon and very violent iritis, which kept her in her room for nearly two months and left her with the iris extensively adherent to a very opaque capsule. It is true that discission subsequently gave her good vision—with $+14=20/30$—but the experience was a long and trying one, both to her and to myself and came nearly ending disastrously. In June, 1899, I operated on the other eye, having sprayed the nose well with the permanganate solution. This time, healing kept on promptly, painlessly and almost without redness, and the patient went home on the eighth day without a synechia or other sequela of iritis. Corrected vision some weeks later was 20/20+.

Case 2.—Mrs. E. L., aged 64, had double-sided cataract, complicated with myopia and extensive choroidal atrophy. The left eye was operated on by me Jan. 21, 1898. Operation was followed by severe iritis. Eventual recovery, and with +2.5 ⊂⊃ +2 cyl. horizontal, vision = 20/70. In May, 1898, preliminary iridectomy was made on R. E. Notwithstanding free use of atropin intense iritis ensued, causing firm adhesion of the lower three-fourths of the pupilary margin. On Nov. 2, 1898, after freely spraying the nostrils with the permanganate solution, the iris was dissected from the lens and the latter removed. Healing process was rapid and smooth, without any iris trouble. The resulting vision was quite poor, only 3/200, but this was explained by the existence of a large area of complete atrophy of the choroid in the neighborhod of the macula.

I have long been of the opinion that the introduction of pathogenic—not necessarily pyogenic—germs is more common after the more important operations on the eye than is perhaps generally supposed, and that to it may be attributed in a large measure the not very infrequent cases in which post-operative inflammation of the iris and other tissues is observed.

As a measure of prophylaxis against such inflammations, as well as against infection of the corneal wound with its dreaded consequences, I think that systematic cleansing of the nasal cavities by means of permanganate of potassium solution or some similar agent will prove a useful addition to our antiseptic precautions.

DISCUSSION.

Dr. G. E De Schweinitz, Philadelphia—Since the first of the year I have followed Dr. Lippincott's method, using a solution of 1 to 5000, and have employed it in perhaps thirty or forty operations. It has been my experience that the spray seemed to reduce the hyperemic condition of the conjunctiva which sometimes follows extractions and various operations. Most of these operations were done in the hospital, where I deal with a poor class of patients. I have seen disagreeable results only once, and they occurred in a man who sneezed thirty times after the first atomization. Sterilization of the nasal cavities is a proper procedure, and as permanganate of potassium is a powerful antiseptic, it would seem suitable for this purpose.

Dr. J. A. White, Richmond, Va.—It has always been my practice when there was any trouble with the nose to cleanse it prior to an eye operation. In the methods of cleaning our instruments we may differ somewhat, the main thing being to have the instruments and the field of operation as sterile as possible. I have followed Dr. Lippincott's method and I use the formalin sterilizer, but in the preparation of my patient for operation I have for many years back, notwithstanding the fact that many observers claim that it is impossible to get the conjunctival sac sterile, tried to get it as sterile as possible. The method I have used for ten years has been so satisfactory that I want to give the results of that experience. It is my habit always in preparing a patient for cataract extraction to sterilize the face and to irrigate the conjunctival sac thoroughly with normal salt or 1 to 10,000 bichlorid solution, and afterward to fill the eye with a preparation that I call sterilized vaselin. This is made by adding 1 gr. of bichlorid and 5 gr. common salt to 6 ounces of vaselin. The salt may be dissolved in a little water and the vaselin is boiled, although it is usually claimed to be sterile, and the solution of salt is then easily incorporated. Then I have a cotton pad dipped in bichlorid placed over the eye and hermetically sealed and the eye is not opened again until the patient is on the table for operation. If left on over night, I usually find on opening it that much of the application has been absorbed. As soon as the operation is concluded I fill the eye again with this same preparation. The amount of irritation is not more than that which commonly follows a drop or two of cocain solution. I have had a long and very successful experience in operating and have never had a case of sepsis of any kind, nor any of the complications I used to meet with prior to the time I adopted this method.

Dr. R. S. Magee, Topeka—I simply want to mention the fact that in troublesome ulcerations of the cornea I find that the cleansing of the lachrymal sac, as well as the eye, gives beneficial results. No doubt you have all found ulcerations that will not heal under the various plans of treatment, and can not be expected to until the nasal sac and passages surrounding are thoroughly cleansed. The solution I use is a saturated boracic acid.

Dr. C. A. Veasey, Philadelphia—I simply desire to add my testimony to the efficacy of the method advocated by Dr. Lippincott and which I have now been using for upward of a year. Before I began to use the intranasal sprays of potassium permanganate, previous to operations involving the opening of the eye-ball, it was my custom to employ some mild antiseptic alkaline spray, preferably Dobell's solution, but since I have adopted the new plan I get better results than I did before.

I have met with the complication referred to by Dr. De Schweinitz, that of sneezing, and it is exceedingly annoying. Occasionally a small amount of the solution penetrates the accessory sinuses of the nose and will trickle into the posterior nares after the patient is laid upon the table, producing the paroxysms of sneezing. Another complication I have met with in a small number of cases has been an intense nausea produced in patients of delicate sensibil[illegible] red [illegible] few weeks ago that it produ[illegible] like odor of a dead [illegible] and wa[illegible] that I use of it. These cases are rare and should not deter us from its employment in most cases.

Some time ago I adopted Gifford's method of wiping that portion of the cornea to be penetrated, just preceding any operation involving the opening of the ball, with a pledget of moist absorbent cotton, and I am quite sure the method often prevents germs from being carried into the eye at the time the instrument enters.

Dr. S. Lewis Ziegler, Philadelphia—As Dr. Lippincott knows, I have been interested in the nasal end of eye surgery for some time, but I have not used the permanganate solution. I have used a solution of silico-fluorid of soda, as recommended by the late Dr. Goodman. In cases where there is real danger of infection from the tear-duct a suture placed in the cornea after the operation and the wound treated as an open one, either with or without ice, with frequent use of an antiseptic wash, has prevented any complications in the way of infection.

Dr. G. A. Aschman, Wheeling—In cases where there is purulent condition of the nasal sac and canal, or ozena, I have found valuable help by closing the lachrymal puncta. At the Detroit meeting I read a paper on the treatment of dacryocystitis and advocated this measure. They are closed by introducing the electric cautery almost up to the end of the canaliculus. I think you will all come across cases of this kind, and I believe that by this method the so-called inoperable cases will be done away with. There are cases that can not be postponed, and I believe this is an efficient way to operate on them.

Dr. Lippincott, closing the discussion—I can add only a word to what I have already said. As to the sneezing, curiously enough I have not seen it, but no doubt the next dozen cases I operate on will all sneeze, as things generally occur that way. My patients have not complained of the spray being especially unpleasant, but I do not allow the spray to get back into the throat, making the patient sit with the head bent forward, and stopping for a moment or two when there is any sign of the fluid getting into the pharynx.

Dr. Aschman's suggestion of closing the punctum is, of course, a very old matter, and was referred to in a part of the quotation I did not read. Most of us do not wish to seal the punctum in ordinary cases, and it is only applicable to the cases he referred to. Where the nasal duct is thoroughly probed and syringed, I have never had any trouble with cataract operations.

A CASE OF COLOBOMA OF EACH LENS WITHOUT COLOBOMA OF THE IRIS OR CHOROID.[*]

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ST. LOUIS.

Instances of coloboma of the crystalline lens are so rare—only about seventy having been recorded—and bring up so many interesting questions for discussion, that I feel justified in directing your attention to a case in point.

S. B., male, white, aged 14, was brought to me on Oct. 7, 1899, on account of defective vision. The parents state that he was a delicate child and never was able to see distinctly. Seven years ago glasses were purchased from an optician, and two years since an ophthalmologist prescribed for him.

The boy is an ungainly looking youth; he is 5 feet 7½ inches in height, weighs 100 pounds, wears a 7⅜ hat, and has flat feet and a chicken breast. Four years ago he was operated on for adenoids. With the exception of an attack of scarlet fever he has had no serious sickness. When 3 months old he was salivated. The parents are strong, healthy appearing people. The father acknowledged an attack of gonorrhea before marriage, but denies syphilis. However, a medical friend who knew the father intimately, informs me that he contracted syphilis before marriage. The boy was born eleven months after the marriage of his parents.

The boy is a blond, with blue eyes. To ordinary inspection the eyes appear normal, except for a slight prominence suggestive of myopia. The ocular movements are normal; there is no tremulousness of the irides. The pupils measure 6 mm.

Vision of the R. E.=8/200; of the L. E.=6/200.

The astigmometer of Kagenaar gives the corneal astigmatism as: R. E.=3.00 D. axis 35°; L. E.=2.25 D. axis 135°.

Under atropin the best vision results from these lenses: R. E.=—13.00⊂⊃—5.00 axis 35°=20/50; L. E.=—11.00⊂⊃—2.25 axis 135°=20/40.

After the effect of the mydriatic had passed off, I prescribed these glasses for constant use: R. E.=—12.00⊂⊃—5.00 axis 35°=20/50; L. E.=—10.00⊂⊃—2.25 axis 135°=20/40.

With these lenses he can read, with R. E., Jaeger No. 6 at 10 to 28 cm.; L. E., Jæger No. 2 at 7 to 21 cm.

As remarked by Clark,[1] few cases of coloboma of the lens are recorded in which mention is made of the refraction and accommodation. The reason is that in many of these cases vision is too defective to permit such study.

It will be noticed that in the right eye there is a difference of 2 D. of astigmatism between the findings of the ophthalmometer and the trial case. Retinoscopy shows the amount of astigmatism to be 5 D. I conclude that 2 D. of astigmatism must be lenticular.

Examination of this boy by the ophthalmoscope before using a mydriatic shows coloboma of each lens. The appearance after the use of atropin is shown in the accompanying illustration. No attempt has been made to delineate the retinal vessels. The object of the illustration is to present the defect in the lenses.

There is no coloboma of the iris or choroid. The lens capsule and suspensory ligament are not visible. There is no displacement of either lens. The lenses are transparent up to the lower borders, which appear of a golden-brown color. The fundi are normal.

In looking into literature, I find that most cases of coloboma of the lens show the defect in the lower part. Three exceptional cases are on record: in that of Schiess[2] the lower and outer border was wanting; in that of Lang[3] the defect was directly outward, and in the case of Bronner[4] the coloboma was upward and outward. Doyne[5] has described a case of coloboma of iris and choroid with a projection of the corresponding margin of the lens.

Eyes with coloboma lentis usually present myopic refraction. Bowman[6] and Heyl[7] have recorded cases in which the refraction was hypermetropic. Gruening[8] met with it in an emmetropic eye.

How are we to explain the occurrence of coloboma of the lens? Lang and Treacher Collins[9] say: "The abnormity is caused by some defect in the development of the suspensory ligament. As has been already mentioned, this is developed by adhesions forming between the sides of the lens and the ciliary body at that period of fetal life when they lie in contact. Should some of these adhesions fail to occur, then, as the eyeball enlarged, that portion of the capsule to which no suspensory ligament was attached would not be held taut and made to expand like the remainder; consequently there would be a depression in the lens in that situation. The amount and shape of the deficiency would depend on the extent of the defect in the suspensory ligament. The most likely cause for the absence of adhesions between the ciliary body and the side of the lens, with a consequent defect in the suspensory ligament, would be an absence of the ciliary body; and, as we have already said, a coloboma of the ciliary body is frequently found associated with coloboma of the lens."

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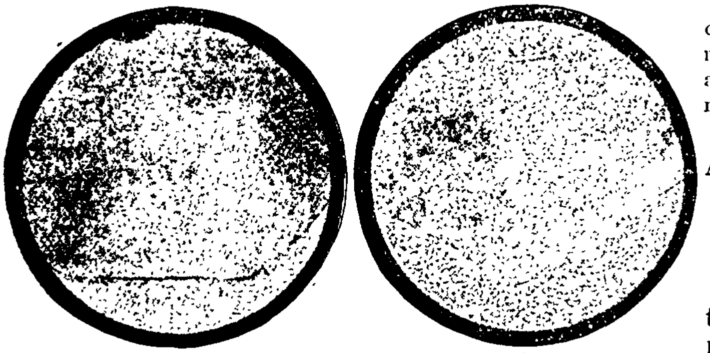
[*] Presented to the Section on Ophthalmology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

Norris[10] says: "While this feebleness or defect in the zonula is probably the true explanation of some superficial notches, and possibly due to imperfect closure of the fetal slit, the deeper notches in the lens, as has been pointed out by Heyl and Hess, are probably caused by some congenital defect dependent upon an anomalous distribution of the hyaloid artery or of its branches to the posterior lens capsule. The exact nature, however, of such a congenital defect is very differently understood by the two authors just mentioned. Heyl holds that insufficient or arrested development of some of the vessels of the vascular lens-capsule causes an arrest in the development of the lens, while Hess maintains that the defects are due to pressure on the lens by some portion of vascular fetal tissue which has not undergone regressive changes and absorption at the usual time. Bock also believes that the vascular plug of ingrowing mesoderm is a hindrance to development at the points of contact, while Bach thinks that the lens at times becomes too large for the secondary optic vesicle, and that at the point of contact with the ingrowing mesoderm there is sufficient pressure to cause molecular degeneration of the subcapsular fibers, which undergo gradual absorption and leave a notch in their place."


Right. Left.

Which of these explanations is correct I will leave to your judgment. Since only about seventy cases of coloboma lentis are recorded, it must be that the condition is occasionally overlooked, or, if found, remains unreported.

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DISCUSSION.

DR. A. B. MCCONACHIE, Baltimore—I have very little to add to the discussion, my personal experience having been limited to a single case, and that not exactly of a character that has been depicted. It was one that, in addition to this defect at the equator, had also a displacement. A boy about 12 years of age came to me two years ago complaining of double vision, which he could avoid by contracting the lids. I could see the dislocated lens upward and outward, and the lower border was slightly excavated. There was also a coloboma of the suspensory ligament, extending completely down to its ciliary attachment. The condition was symmetrical in each eye. Naturally, there was in the lower inner segment a hypermetropic condition and this gave an excellent opportunity by skiascopy to show the myopia above and hypermetropia below.

As to the origin of these faults, I think there is much in the explanation that is hypothetical, and we are not yet able to study them as we ought to. Our study is largely ophthalmoscopical, and our opportunities being limited, we must expect to remain in darkness for some time. In regard to those cases in which the coloboma occurs otherwise than in the region of the ocular fissure there is more difficulty of explanation. I believe Dr. Theobald, of our city, has reported one case in which the cleft appeared in the upper and outer segment. Doubtless those cases are due to faulty development of the suspensory ligament.

DR. GEORGE E. DE SCHWEINITZ, Philadelphia—I would like to put on record a case that came to the Jefferson Hospital Dispensary a few weeks ago, a colored boy with double coloboma of the lens, associated with a coloboma of the iris. The general refraction of the eye in this case was hypermetropic.

DR. R. L. RANDOLPH, Baltimore—I may mention in this connection a case I saw about two months ago of a man with microphthalmus with coloboma of the lower border of the lens, also associated with coloboma of the iris, choroid and optic nerve. It was the first time I had seen the latter condition.

A STUDY OF THE INOCULATION THEORY OF MALARIAL FEVER.*

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At the outset of the discussion regarding the inoculation theory of malarial fever through the agency of the mosquito, it seems best to spend a passing word in giving credit to those who have labored to bring about a revolution of ideas in regard to the etiology of this disease. The man who principally formulated the theory that the mosquito acted as the intermediate host in the life history of the malarial parasite was Patrick Manson, of England. Manson, in a measure, followed the views of Lancisi, of Italy, and of Laveran, of France, in that the malarial parasite through the mosquito first passed into water, and in that way was ingested by man. But Manson did not prove this theory. Ronald Ross, of England, caught the inspiration from Manson, and in India, after months of toil, proved by observation and confirmed by experiments on birds that the mosquito really and in truth did act as the host of this parasite. Thus began the movement toward the proper knowledge of the life history of the malarial parasite. Amico Bignami, under the direction of Battista Grassi, of Italy, was first to prove the inoculation theory in the case of man, on the person of Abele Sola, an inmate of San Spirito Hospital, who voluntarily submitted himself to such an experiment. The work of Marchiafava and Bignami in Italy, of Koch in Germany, and of Thayer in this country, can not be mentioned without praise.

The full development of the theory, and confirmed by proof, that the mosquito acted as the intermediate host in the life cycle of the sporozoa of malarial fever has a far-reaching importance and carries one into new fields of thought regarding the various other unknown hosts which may perhaps act similarly for many of the other infectious diseases.

The keynote of this subject was struck by Theobald Smith, who in a recent lecture delivered before the Philadelphia Pathological Society,[1] stated that in making studies in biology one should record carefully all his experiments made on the lower forms of life, whether they at the time seemed of interest or not to the individual investigator.

Starting on the road in pursuit of the facts in regard to the inoculation theory of malarial fever one encounters at the very threshold the sciences of biology, zoölogy and entomology. History states that the term "mosquito originated on this side of the Atlantic Ocean, such being first used in the West Indies, where, it is learned, the word 'mosquito' meant 'a kind of gnat streaked with silvery white, the female members of which have a piercing and sucking apparatus, and annoy man.' " This term is well founded and is a better one than the word "gnat," which has recently come into vogue by certain writers of the old world. The former term distinguishes the mosquito from gnats in general, from the chironomus, and from various other insects analogous to the mosquito.

For the most part, this article deals with two genera of mosquitoes, namely: genus Culex and genus Anopheles, both of which belong to the natural order Diptera.

The Culex pungens deposits its eggs in pails and drains, or vessels of any kind, around the house, while the Anopheles seeks natural ponds or puddles left after heavy rains, and usually in those places which do not contain fish. The number of eggs deposited by the female Culex pungens is about 200, and at the end of three weeks the full-grown mosquito develops. Several broods are hatched each season. The larvæ of the Culex float with head downward in the earliest stages, and breathe through a pneumatic tube at the end of the tail, but later the mature larvæ—or pupæ—reverse their position and then float with head upward, doubtless breathing through two prolongations or spiracles projecting from the head. When disturbed they wriggle rapidly to the bottom of the vessel in which they are contained. The larvæ of the Anopheles, according to Ronald Ross, lie flat upon the surface of the water, like sticks, and when disturbed they move off with a backward skating motion. Marchiafava and Bignami[2] describe the larvæ of Anopheles as "being brown in color, and always move in a horizontal direction, never in a vertical or oblique one," as do those of Culex. The larvæ of Anopheles live in fresh water, such as streams or artificial lakes which contain green moss or algæ. I have been able to confirm these observations of Ross and of Marchiafava and Bignami.

The Culex pungens may be found in the heart of cities, the Anopheles in rural districts, and frequently in the rooms of patients suffering with malarial fever. The Anopheles is frequently found in barns and near horses or cattle, and may be transported through hay to cities and thus lead to local outbreaks of malarial fever, as pointed out by Marchiafava and Bignami.[2]

One may devise either of two methods in studying the relation of mosquitoes to malarial fever; first, to search for the Anopheles in its native haunts and then for the case of malarial fever; or secondly to find the case of malarial fever and afterward look for the Anopheles.

The mosquito is ubiquitous over the face of the earth. It may be found in the tropics, and in regions of perpetual snow. While on a recent investigating journey to Washington, Rear-Admiral George Wallace Melville, who was on the steamer *Jeannette,* which a few years ago made a trip to the Arctic region, informed me that when in Siberia, between the Lena delta and Yakutsk, about 1200 miles from the north pole, mosquitoes prevailed from June to September, and bit severely during those months. In 1877 and 1883 he visited the west coast of Greenland, 500 miles from the pole, or in latitude 65 to 78.30 north; mosquitoes bit fearfully during July and August, but worse in the former month. In August and September, 1878, he visited Norton Sound, and when at St. Michael's, in the Behring Sea, south of Cape Prince of Wales, and east of Cape Prince of Wales Island, mosquitoes were abundant. He also visited the region of St. Lawrence Bay, westward of Cape Prince of Wales. Here mosquitoes were also found. On each of these expeditions members of the crew were severely bitten, but not one had fever of any kind. I was told that so bad are the mosquitoes in these regions that animals coming down in the warmer months are driven back north again by the swarms of mosquitoes which infest that region.

The mosquitoes obtained in the arctic region and in the collection in the National Museum at Washington and shown me by Mr. D. W. Coquillett, were specimens of the Culex consobrinus, and Culex impiger. Both of these species came from Alaska. The impiger was taken at Sitka, June 16, Yakutat, June 21, Virgins Bay, June 26, and Popoff Islands, June 8 and 16, in the year 1899. It might be interesting to note that one of these specimens was accidentally found in an old box of paper and doubtless would have been thrown out if its presence had been known. The Culex consobrinus may also be found as far south as New Mexico, while the impiger has been found on the Island of Jamaica, by C. W. Johnson. Specimens of mosquitoes caught near the City of Mexico on Aug. 4, 1900, and sent to me by Dr. Manuel Urbino, of the National Museum of Mexico, proved to be Culex tarsalis and Culex impiger (?). Mr. C. W. Johnson has recently shown me a specimen of Anopheles —resembling a crucians—which was captured in Venezuela.

Whether the Anopheles lives in the arctic regions is not known, but should they do so they are doubtless harmless.

An interesting question to be decided is, where do the mosquitoes in our latitude go during the winter months? My observations can only be recorded for the latitude of Philadelphia. In this city, the Culex pungens were abundant during September and the first two weeks of October of 1899. Toward the latter part of October the females apeared to be more scarce, while the males were abundant, and I could not find the former in the cellar or outhouses as formerly. On December 17, a full-grown female Culex pungens was found in the sitting-room of a residence in the center of the city. It was kept alive for nearly one month. On February 4, another full-grown female pungens was caught in the kitchen of the same residence. The weather for a week previous had been intensely cold, and for a few days the thermometer had dropped to 7 degrees above zero. It had evidently come out to get water, for when caught it was adjacent to a hydrant. In captivity it only survived one week. About April 1, 1900, a few moths, gnats and spiders, with very long brown legs, began to appear, but no mosquitoes. I could not find any in the dark corners nor walls of the cellar, nor on the wooden structures of the house, nor anywhere around the furnaces on April 1. Not feeling satisfied, the greenhouses of the Biological Department of the University of Pennsylvania were visited. A brief description of these houses would be: 1, a vivarium containing tropical plants and standing water throughout the year, and kept at a temperature of 60 F.; 2, an orchid room kept at 60 F.; 3, an animal-house kept at 60 F.; 4, a cypripedium room at 65 F.; 5, a palm-room at 69 F.; and 6, a stove-room at 89 F. In all these rooms standing water may be found during the winter. A search of two hours in all of these rooms failed to reveal a single mosquito until I had gone into the animal-house, where a full-grown female pungens was found lying flat on the wall and about three feet above some rabbits, and the same distance from a hydrant. It was devoid of blood.

On May 15, 1900, a search of two hours through Horticultural Hall, in Fairmount Park, from the dark basement below to the roof above, failed to reveal a mosquito of any kind. From October to May the temperature in this building ranges from 65 to 70 F. On going into an outhouse immediately adjacent, a young female pungens was found. On May 19, I had no trouble in finding several specimens of full-grown female pungens in a barn in the lower edge of the city and about two miles north of League Island Navy-Yard, a district in which I had treated a case of estivo-autumnal fever the previous fall.

That mosquitoes survive the winter in the climate of Philadelphia, and that they do not necessarily have to migrate to this region, I offer the following data: Full-grown mosquitoes were caught in this latitude during September, October and November, on December 17, February 4, April 24, and a young specimen on May 15. To complete this series the following may be recorded as told me by others: Mr. Coquillett informed me that a specimen of Anopheles punctipennis was found on the snow in Castleton, Vt., on February 1, when the temperature was 6 degrees above zero. Mosquitoes have been found in Washington on December 23 and January 30. Professor Theobald Smith caught a mosquito in Boston during the last week of March. The series is thus complete, and mosquitoes have been found in this latitude during September, October, November, December, January, February, March, April and May. Whether these insects migrate at all I am unprepared to say.

It is said that they do not fly far from their breeding-grounds.

It seems interesting to know that not one male mosquito was found during the entire winter. Marchiafava and Bignami note a similar experience in Italy.

The males were more numerous than the females up to the latter part of October, then disappeared. Of the first brood captured the following May, probably half were males.

All of my mosquitoes were full grown except the specimen obtained May 15; all were Culex pungens; all but one collection were found on plastered brick surfaces; all were adjacent to some kind of animal, and all were in localities convenient to standing water.

According to observations made by different scientists in various parts of the world, it has been demonstrated that not all genera of mosquitoes are capable of inoculating man or birds with malarial fever. This power so to do appears to rest solely with the different species of the genus Anopheles. However, this much has been proved, that birds suffering with malarial fever, Proteosoma Grassii, have been bitten by the Anopheles, and the disease thus conveyed to uninfected birds through the bite of this insect. Further, Grassi and Bignami have raised the Anopheles from larvæ obtained in districts far removed from malarious localities, which mosquitoes have been transported to other places and there have bitten patients suffering with malarial fever and after a certain number of days these same mosquitoes have bitten uninfected men with the result that malarial fever has been produced.

Ross found that within from two to three days after the Anopheles maculipennis—claviger, or quadrimaculata—had bitten birds suffering from avian malarial fever, there developed in the outer muscular coat of the middle intestine certain bodies which had not been found in the middle intestines of other species of mosquitoes, nor in uninfected specimens of the same genus; and within seven to ten days these spores or sporozooids of malarial fever became stored up in the veneno-salivary gland of the insect and in that state were capable of infecting man.

The malarial parasites in the body of man do not take a similar course. Studies of the human blood reveal the presence of certain small, round, actively motile intracorpuscular organisms. These grow to full development at the expense of the red blood-disc, and subsequently rupture, setting free a number of hyaline bodies that at once re-enter other erythrocytes. These results therefore go to show that the sporozoa or plasmodia of Laveran require for their complete existence two biological cycles, one being completed in the body of man, the other being completed in the tissues of the mosquito.

Previous to this time the species of Anopheles used in the experiments on birds and man have been the Anopheles claviger, or more accurately, Anopheles maculipennis. (Lately identified as our Anopheles quadrimaculata.—Howard.) The Anopheles quadrimaculata, or maculipennis—claviger—acording to L. O. Howard, has been found in eight different localities of the United States, as follows: Texas, Florida, Maryland, District of Columbia, Illinois, Minnesota, New Hampshire and New York. The Anopheles punctipennis has been found in nine different localities, namely: Texas, District of Columbia, Maryland, Vermont, Massachusetts, Pennsylvania, New York, New Mexico and Illinois. I have found the Anopheles claviger—quadrimaculata—in at least two localities near Philadelphia and in the Pocono Mountains of Pennsylvania at an altitude of nearly 3000 feet above the sea level. The Anopheles crucians has also been found in this country. Grassi states that he was first to claim that all species of Anopheles were capable of transmitting malarial fever to man.

The genus Anopheles may be distinguished from the genus Culex by the fact that the Anopheles has spotted wings, the palpi are as long as the proboscis, and when the insect rests against the wall the body points outward, forming an angle with the surface on which it rests. The two posterior legs of Anopheles hang downward, and not thrown up over the back as in Culex. The word "spots" as applied to the minute dots or markings on the wings of the Anopheles, signifies very minute round, oval or irregular dark areas on the upper surface of the wings and may be readily discerned by the naked eye, but better with a small hand lens.. The dots are due to a thicker growth of hair in these regions.

My studies to determine the anatomy of the mosquito consist of making paraffin sections of the entire insect in serial form, thus cutting the insect into about 600 pieces, and staining with Delafield's hematoxylin solution and eosin; further by dissecting the fresh specimen by means of needles under a dissecting microscope.

In a former [illegible] printed in The Journal, Feb. 3 [illegible] that regarding [illegible] previous to [illegible]

I take this opportunity to say that since examining the literature further I find that Mr. Leon Dufour,[3] in the "Récherches Anatomiques et Physiologiques sur Les Hemepterics," Paris, 1833, has shown a chart of the dissected mosquito, as has Mr. Felix Arribalzagas in "Dipterologia"[4] (Argentina), 1891.

Marchiafava and Bignami have had Anopheles to bite patients suffering with malarial fever, and, killing the insects from day to day, have studied the whole life history of the parasite outside the human body. For the development of the sporozooids of the different forms of malarial parasites they found that it was best to keep the insects at a constant temperature ranging from 68 to 86 F. After the seventh day they found the spores accumulating within the salivary glands of the mosquito and were then in a fit condition to inoculate man.

Since the conditions seem to require that the temperature be a somewhat high one, this fact might in a measure prevent the development of the malarial parasites within the tissues of the mosquito in arctic regions. (The isothermal line near the arctic circle for the most part remains at 10° F.). It might explain the absence of malarial fever in regions near the north pole. On the other hand, all the necessary conditions are fulfilled in tropical climates, and here also may be found all varieties of malarial fever throughout the entire year.

As has been previously stated, it has been proved that all kinds of mosquitoes are not capable of inoculating man with malarial fever. This power has so far been proved to rest alone with the Anopheles, the exact reason for which must be solved by future workers. Its solution will doubtless be explained by finding certain differences in the anatomy, the function, or the habit of these insects. Whether there is a difference in the structure of the mouth parts, stomach, middle intestine, circulatory system, salivary glands or its secretions, are questions still *sub judice*. In answer to this question, Grassi has stated that it might be due to the rapidity with which the blood may be digested by the Anopheles, that is, twenty hours sooner than in Culex.

In many regions of this country proof that malarial fever may be inoculated has been a revelation to the physicians of those districts. It also furnishes proof positive of the value of experimental knowledge combined with clinical experience. Clinical experience, be it remembered, is only a form of observation, and will never furnish more than half proof. Proof consists in *observation confirmed by experiment.*

Speaking as one who formerly lived in a malarial district of the South, I shall make the statement that owing to the manifold causes and intermixture of effects which surround this question, it is absolutely impossible for clinical experience to unravel the thread which entangles the question of the etiology of malarial fever. This does not apply alone to malarial fever. Is it not so in all the other infectious diseases? The physician, according to my experience, questioning the patient suffering with malarial fever can not elicit the absolute evidence for which he searches. In over 75 per cent. of the cases the patient will state that he has slept in a region adjacent to water, in a low, damp place, or in an open house, and that he has been drinking water from shallow wells, or, worse still, creek water. Farther than this the mind of the patient will not go. His knowledge only extends to the time when the bilious spell came on, or perhaps the initial shiver.

Several years ago, before the full development of the inoculation theory, I undertook by close questioning to learn, if possible, how patients contracted their chills. The whole evidence led to a labyrinthine skein from which it was impossible to unravel any safe conclusion. Some patients told me positively that they did not drink creek water, but only water from wells or springs, and that they at night slept in open houses. The majority perhaps told me that they had both slept in open houses and drank creek water, or water from shallow wells. Instances have been cited in which expeditions have gone into malarial districts without drinking creek or well water and that they had no chills. And from this the conclusion is reached that infection forsooth must take place through the gastrointestinal tract. One may well ask, what about infection through the inspiratory tract, and also about the question of immunity at that definite time? By whichever road one may travel at least one of them leads up to that monument of proof furnished by Ronald Ross, Marchiafava, Bignami, and Koch, that the spores of the malarial fever may be inoculated into the blood of man through the bite of the mosquito.

As to the stamping out of malarial fever various methods have been advised. If the mosquito is to be exterminated in temperate climates, which at the present time seems an impossible task, there may be two periods in which it may be assailed. One would be to kill off the adult and fertilized females during the periods of hibernation, a period in which there are least of them, and secondly to get rid of the larvæ especially during a few brief weeks of early spring. The most direct way of eradicating malarial fever is to isolate all the cases by means of mosquito netting and the judicious administration of quinin.

So far as the Culex pungens is concerned, a very great deal might be done toward limiting its multiplication by giving strict injunctions to the housemaid not to permit stagnant water to remain in pails or buckets about the premises. Another plan would be to point out to boards of health the danger lurking in stagnant water wherever found. The larvæ of Anopheles have been found by Marchiafava and Bignami[2] in stagnant water, and in winter they have found the fertilized females hibernating in caves.

Different drugs and chemicals have been recommended for the destruction of the larvæ of mosquitoes. A culicicide to be of any service must undoubtedly possess many qualities: 1, it must be easily obtained everywhere; 2, it must be inexpensive; 3, when used it must lie on the surface of the water for long periods of time in order to prevent the deposition of eggs by the female; 4, it should be non-poisonous; and 5, it must kill the larvæ or pupæ of the mosquito.

On the morning of May 22, 1900, I found about 100 larvæ of the Culex pungens in an old paint-bucket in the yard of a residence in Philadelphia. These were nearly all in the same stage of development. After their development into pupæ, I decided to make the following experiments with chemicals calculated to destroy them. The experiments thus made consisted of: 1, a strong solution, 120 grains of tobacco to the ounce of kerosene oil (the tobacco to macerate in the oil for 24 hours); 2, a saturated solution (240 grains to the ounce) of camphor in kerosene oil; 3, a saturated solution (80 grains to the ounce) of naphthalin in kerosene oil, and 4, kerosene oil. Two round glass jars were selected, having a diameter of 7 inches (18 centimeters), a circumference of 21½ inches (52 centimeters), and holding a half gallon (2 liters) of hydrant water. Into each glass jar four of the above-described pupæ were placed, one series to be used for the experiment, the other containing the control pupæ.

(The mosquito seems easiest destroyed in the pupa stage since the larvæ may frequently be seen to prevent closure of the breathing tube by biting off the occluding substance.)

Experiment No. 1. Tobacco and kerosene oil experiment: The pupæ on which the experiment was begun were disturbed so as to cause them to fall to the bottom of the jar and on the surface of the water was floated one drop of the tobacco-oil solution. At the end of eight minutes no effect whatever was produced. Now adding three more drops of the solution, all pupæ were practically dead at the end of one hour. The control pupæ remained active.

Experiment No. 2. Camphor-oil series: The jar was now rinsed out carefully until no odor of oil could be detected and four fresh pupæ were placed in the vessel containing a half gallon of hydrant water. The jar was shaken to cause them to sink to the bottom and two drops of camphor-oil solution added. Twenty minutes later no effect was observed. At this time two more drops were added and eight minutes later all the pupæ were sick and were all practically dead at the end of thirty-five minutes. The control pupæ were active.

Experiment No. 3. Naphthalin and kerosene oil series: Four fresh pupæ were placed in the cleansed glass jar containing a half gallon (2 liters) of water and the vessel agitated to cause them to sink, and two drops of naphthalin solution added. Five minutes later one pupa was dead while the other three were active. Eleven minutes later two more drops of naphthalin solution were added and at the end of thirty-seven minutes all the pupæ were practically dead. The controls were in good condition.

Experiment No. 4. Kerosene oil series: Into the cleansed jar containing half a gallon of water were placed four fresh pupæ. After causing them to sink, four drops of kerosene oil were added, with the result that all four pupæ were practically dead at the end of twenty-seven minutes. The control pupæ remained in good condition.

It was evident that four drops of kerosene oil without any other ingredient whatever, acting for a period of from 1 to 37 minutes on four mosquito pupæ contained in a glass vessel 21½ inches in circumference and containing half a gallon of water, was as destructive as kerosene oil containing tobacco, camphor, or naphthalin dissolved in the above-named proportions.

Not feeling satisfied with these experiments and thinking that a smaller amount of one of the combinations might be of greater potency, acting through a longer period of time, I followed the same line of experiments, only this time adding 1 drop of each solution and allowing it to stand from six hours to a longer period. The result proved that the addition of 1 drop of the camphor-oil, or 1 drop of the naphthalin and kerosene oil, or 1 drop of plain kerosene oil produced no effect at all, while the tobacco-oil killed all four pupæ within a period of two hours. The control pupæ which had been used throughout all these experiments remained in the best of condition. To these were added 1 drop of tobacco-oil solution, which produced death in all of them within a period of five hours.

Carrying my experiments still further, I placed four control pupæ in a tub 2 feet (61 centimeters) in diameter and 70 inches (177 centimeters) in circumference, and about 4 inches in depth, and also four pupæ in a similar tub, each of which contained four gallons (8 liters) of hydrant water; to the latter series 6 drops of tobacco-oil solution were added, which caused death to all of them within 4½ hours. The control pupæ remained in good condition during the experiment, and three of them were later killed by the same solution. The fourth one positively refused to die, and after development was given its liberty. Making a rough calculation, the amount of this tobacco-oil solution to be applied to an acre of water for the destruction of the mature mosquito pupæ contained, should be said to be from 44 to 60 ounces. It would be best to renew this fluid every three or four weeks. Frequent agitation aids the fluid in spreading on the surface of the water.

Should the mosquito be the only agent in disseminating malarial fever, the destruction of the larvæ or pupæ of that insect would be only one way of getting rid of the disease. When one realizes that according to Manson 5,000,000 British subjects die each year of malarial fever or its complications, the question assumes mighty proportions. How many die of this disease in the United States I am not prepared to say. They at least run up into the thousands. Regarding the stamping out of the disease in any country Manson suggests the following methods: "1, to begin by administering quinin for long intervals to all cases of malarial fever, since a single man is a source of infection to a whole locality; 2, to cause all persons suffering with malarial fever to sleep under mosquito netting; 3, to compel all the uninfected to sleep in mosquito-proof houses or beds; 4, to kill by different culicicides all mosquitoes entering houses; 5, to destroy all the mosquito larvæ before they reach maturity or the biting stage—to which might be added the destruction of the adult mosquitoes in their places of hibernation—and 6, a combination of all these methods."

[Microscopes for demonstration of sections of mosquitoes at the Atlantic City meeting were loaned through the kindness of Messrs. Queen & Company, Philadelphia.]

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THE ATROPHIC PHARYNX.

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PHILADELPHIA.

The literature of the atrophic stage of chronic pharyngitis may be generally classed under the term vague. Writers appear to know or care nothing about the pathologic anatomy of the condition and its relationship to other forms of pharyngeal inflammation seems to be generally ignored. The old term "pharyngitis sicca" is a clinical one, used at random for any form of dryness of the pharyngeal mucous membrane, and bears no relation to any definite form of disease.

All types of simple chronic inflammation of the pharynx tend to progress into the atrophic form. What might be called the average type of chronic pharyngitis is characterized by the enlargement of the lymph-glands, giving the so-called follicles, by dilatation of the superficial blood-vessels, and especially by the formation of small masses of granulation tissue, which are usually situated immediately behind the posterior half arches of the palate. Atrophic areas, showing as sunken, glistening, light-colored spots, occur in the [illegible] portions of the pharyngeal wall. Su[illegible] re-

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*Presented to the Section on La[illegible] Fifty-first Annual Meeting of the A[illegible] held at Atlantic City, N. J., June 5-8.

main *in statu quo* for half a life-time, seeming hardly to progress, yet never growing better, and giving but a minimum of discomfort. But in a certain number of cases, sometimes dependent on causes known and measureable, but more often for reasons unknown, the chronic interstitial inflammation steadily extends, the areas of granulation tissue become more extensive, and the greater portion of the pharyngeal surface is infiltrated.

The pathologic process is identical with fibrosis elsewhere, the persistent migration and aggregation of leucocytes, their fibrillization and slow conversion into new connective tissue, and the contraction and extension of this formation, with resultant pressure atrophy. In advanced cases the process extends until most of the important structures of the pharynx have been replaced by the fibrous tissue, and the anatomical relations and functions of the organ have been more or less materially changed.

The etiology of this disease, like that of fibrosis elsewhere in the body, is almost unknown. Gouty subjects are certainly more prone than others, and extensive atrophic changes are always present in advanced cases of chronic lithemic sore throat. But it occurs apparently at random among patients of all types, and one might almost say of all ages, and sometimes fails to be present where most positively expected. It follows sclerotic rhinitis, but may exist where the nasal lesions are but slight. Not rarely I have seen it swiftly follow extensive and repeated destructive intranasal operations, but these cases are fortunately now much more rare than they were a few years ago, when the galvanocautery was more popular than at present. In a certain number of cases it is rapidly lighted up by an attack of diphtheria, typhoid fever, or measles, and in many subjects it appears to be distinctly inherited. The clinical history of the atrophic pharynx is that of years of throat fretting, latterly growing decidedly worse. Dry throat, itching, tickling and resultant cough, choking while eating, dull pain which may radiate into the larynx or up toward the Eustachian tubes, and interference with voice, are the commonest symptoms. From the extension of the disease in the larynx, dysphonia is always a prominent complaint in advanced cases. The voice is weak and without staying powers, requiring great nervous and muscular effort to talk or sing for any length of time. Vocal resonance is lacking, and the voice may be called thin, while a constant sense of irritation is produced by its continuous use. The appearance of the atrophic pharynx on inspection is characteristic and unmistakable. Normally, the posterior pharyngeal wall, as viewed from the front with the tongue properly depressed and the part illuminated, is somewhat concave, the surface is slightly rugose, and the color resembles that of the general buccal lining. The atrophic throat, on the other hand, shows a somewhat convex posterior wall, the glandular and muscular elements having disappeared and the centra of the cervical vertebræ pushing the mucous membrane forward in the median line. The surface is absolutely smooth, glistening, and tightly adherent to the tissues beneath. There is generally a line of nearly white or yellow tissue immediately behind the posterior half arch, and the distance between the border of the pendant soft palate and the posterior pharyngeal wall is abnormally great. Engorged and varicose veins may traverse the pharyngeal membrane in any direction, but are especially prominent close to the tonsil and posterior half arches; they are due to cicatricial tissue pressing on the veins and preventing proper return of blood from the part.

The postnasal and laryngeal regions always participate in the general destructive process. Rhinoscopy is easy, and shows the pharyngeal vault to be abnormally large, light colored, and smooth in outline. The Eustachian prominences are pale and contracted, and tubal changes with a greater or less degree of middle-ear sclerosis are almost constantly present. The larynx is noticeably light colored, and the aryepiglottic folds are more or less thinned. Chronic tracheobronchitis is a common concomitant or result in middle or advanced life.

In the nature of things treatment of atrophic organs must always be unsatisfactory so far as restoring their function is concerned. The calm assurance with which practitioners proceed to "cure" diseases due to hopeless alteration of organs is one of the dreary spectacles in medicine. No fibrosed tissue ever returns to a normal condition, no organ so affected can carry out its functions with normality.

The possibilities of treatment in the present state of our knowledge in atrophic pharyngitis are limited to palliation and perhaps arrest of progress. The essentials are to control the migrations of leucocytes and to obtain hyperactivity of the remaining normal tissue element. To bring about this result, stimulant and alterative sprays, such as oil solutions of gaultheria, cinnamon, cubebs, thymol and the like, are certainly of benefit. They should be applied generally by the physician himself, and only to a membrane which has been carefully cleansed by an alkaline spray. Cases of atrophic pharyngitis are generally either markedly irritable or unusually tolerant under treatment; the former class are naturally much the more favorable, and much more satisfactory therapeutic measures can be carried out. The massage effect of properly chosen atomized fluids when driven with a pressure of from 15 to 18 pounds is very decided and most beneficial. The tip of the atomizer should be held about one inch away from the mucous membrane, and the jet steadily and rapidly carried over the entire surface.

In the irritable cases much less can be done, and spraying may have to be limited to inhalations with the tip of the instrument outside the mouth. Pigments applied with the applicator and tightly rolled cotton mop often seem to give more definite results than nebulæ. Thymol solution in alcohol and glycerin, tincture of sanguinaria and glycerin, and copper sulphate, are favorites with me; iodin is sometimes useful. In tolerant subjects much valuable massage can be given by rhythmic and gentle patting of the whole membrane with the medicated mop; if retching, cough, and discomfort result, the method is likely to do more harm than good. Best of all methods of massage and stimulation is the faradic current, the positive pole being applied to the pharynx while the negative is held in the hand of the patient. Many cases will tolerate a séance of two or three minutes with undoubted good result; irritable subjects are best treated by applying the rheophore to the palate and roof of the mouth only. Powders, caustics, strong astringents, and especially silver nitrates, I regard as only injurious in this disease, their use almost always hastening the fibroid process. Operative measures have not been advised by even the most radical of special surgeons; we need to replace tissue, not remove it, and if surgical procedures are necessary for any incidental nose or throat conditions, they should be undertaken with the greatest caution, as every cicatrical area undoubtedly acts as a fresh center in the fibrosis. Palliatives intrusted to the patient may consist of eucalyptus and menthol oil-sprays, lozenges of elm and lettuce, and possibly a sedative gargle. The good effect of the latter is probably entirely due to the necessary muscular action in gargling and not to the medicinal agents employed. Medicated steam inhalations from a really efficient steam atomizer give great comfort, and have some permanent limiting effect on the disease; their use can be continued for months. Internal medication is but a weariness to the patient, so far as altering the diseased throat is concerned; but good hygiene is, of course, necessary, and the correcting of pernicious habits, especially among them the inhaling of smoke, is often absolutely necessary to secure any symptomatic improvement.

Very great comfort extending over long periods and indefinitely prolonged by occasional treatment may certainly be secured by the therapeutic measures outlined in atrophic pharyngitis. The voice will increase in power, the disagreeable sensations lessen or disappear, and the most dreaded sequelæ, sclerotic otitis and chronic bronchitis, may be prevented. But too much must not be hoped for, for patients must be frankly told that their condition is not definitely curable, and accuracy in diagnosis of the actual pathologic factors at work is essential.

DISCUSSION.

Dr. W. Freudenthal, New York City—I am very much interested in Dr. Seiss' paper and would like to make a few remarks on atrophic pharyngitis and rhinitis. You can not separate the pharynx from the nose, especially in these cases. *The principal symptom in atrophic pharyngitis and atrophic* rhinitis is a dryness of the throat, and this is a most important factor. I wrote a few years ago on this topic, and my theories are now acknowledged abroad by a number of men, although I have not heard anything about it in this country. The dryness arises largely from the atmosphere we inhale. The atmosphere of New York, for instance, in winter is entirely too dry, and when it sinks below 40 degrees it is injurious. I have measured for years the dryness of the atmosphere in New York in the houses and schools, and I have often found a relative humidity of 20 per cent., while the highest was only 25 or 30 per cent. The colder the outer air is the more we heat our furnaces and the more hot dry air is driven into the rooms. The air in the furnace is heated and thoroughly dried and the more that is driven into the rooms the more we inhale of it. For a while the nose and pharynx can stand it, but when the rest of the body can not supply the pharynx and nose with sufficient moisture, there sets in at last what is called a dry atrophic pharyngitis and rhinitis. This condition affects mostly the nose, but in the cases where the nose is stopped up the patient will inhale much more with the pharynx, and the dryness *will affect the pharynx chiefly. We should* expect this to occur especially in children with adenoids, but since the process requires years and years to develop we find atrophic pharyngitis most frequently in older people.

The Doctor spoke of the effect of the spray. That is very good and very true. But why not apply massage directly? I devised a few years ago a vibrator and it works very well.

Dr. J. Holinger, Chicago—There is a diversity of opinions as to dry pharyngitis. The fact is that so far we have no intelligible explanation for the pathology of the whole picture. The dryness and moisture of the air, the bacteria and all the other factors are present in people who never had and never will have an atrophic rhinitis or an atrophic pharyngitis. These two diseases, together most probably with a third one, that is, with pachyderma of the larynx, form one group of diseases. One or another of the combination may be lacking; most often it is the pachyderma, but it is wrong to speak of one and ignore the others. In a patient I am now observing all these morbid conditions and their close relations are quite clear. A short while ago I read a paper before the Chicago Laryngological Society, in which I spoke of this matter. In this case the two nostrils are not equally wide. From the left one, which is very wide, I have constantly to remove accumulation of crusts, while in the other nostril a big ridge is present, which I think is responsible for the comparatively moist condition and the little accumulation of crusts in that side. He has one-sided ozena, dry pharyngitis and pachyderma of the larynx. This class of cases led Liebermann to compare the noses of patients with atrophic rhinitis and of normal patients by *measuring the skulls. A mention of that work is made in one* of the latest numbers of the *Laryngoscope.* It was proved beyond all doubt that by far the greater number of cases of atrophic rhinitis, something like 97 or 98 per cent., occur in *people with broad faces, combined with the low nose.* By "low" is meant from the forehead to the mouth. At the same time these people have a wide nose. These are the congenital cases or the inherited cases of atrophic rhinitis. They are usually combined with dry pharyngitis. The acquired forms have as yet no direct explanation. The atrophy of the turbinals, especially of the bony turbinals, shows there must be a process that causes the bone to shrink. There may be something similar to chronic osteomyelitis of other bones. Thus, it is possible that the explanation of the whole picture of atrophy of the mucous membrane of the pharynx and turbinals and turbinal bones is nothing else but the scar retraction after submucous or interosseous inflammatory processes and that the change of the epithelium is similar to the change that we found long ago in old fistulous tracts. The inflammatory processes would run their course in childhood, where we see often pus discharges from the nose.

The text-books treat these diseases as diseases of the mucous membranes of the nose and pharynx, and we all know that in atrophic or dry pharyngitis and rhinitis the subumcous tissue and even the underlying bone suffer just as much or more than the mucous membrane.

Dr. H. Stillson, Seattle, Wash.—I am very much interested in the pathology of the disease, and since Dr. Seiss has asked for a kind of experience meeting on the question of treatment, I wish to refer to a method of treatment that I advocated about 15 years ago. I wrote at that time to Dr. Bosworth and asked him if he had attempted to teach patients to cleanse the mucous membrane of the pharynx by means of the *tongue. He said he had in his experience seen very few pa*tients who were able to insert the tongue into the naso-pharynx. I wrote also to Dr. Solis-Cohen, and he said he had seen very few patients who would become able to do that, and he himself when he attempted *to do it, found it very difficult.* I have found patients able with the moistened tongue to cleanse the naso-pharynx. Then they can medicate it with the saliva or with some medicine they carry with them. They can do this without injury. I have discovered no deleterious effect from it. They can certainly cleanse the pharyngeal orifice of the Eustachian tube. They can stick the tongue into the nose, and I had one boy who could protrude the tongue entirely through the nose and wiggle it at you through the anterior orifice. My observation is that boys and ladies are able to learn this movement of the tongue much better than others. There are certain pathological conditions that render it very much more difficult, for instance, adhesions of the soft palate with the tonsils or cicatricial contraction of the pillars of the fauces. One advantage of this method is that the tongue has its own intelligence and can hunt out the little granulation tissue and confine its massage movement to the tissue that *needs it most. It is able to carry the medicine intelligently* to the granulation tissue. Along with the pharyngeal process there is a similar process along the upper wall of the soft palate. Often there will be a growth of granulations here, to which the tongue is able to carry the medicine and apply it. The tongue is able to apply massage to the posterior end of the turbinals, and in the early stage of this disease there is very often hypertrophy along with atrophy, and hypertrophic tissue may be found beside the atrophic tissue.

Dr. C. L. Richards, Fall River, Mass.—While admitting with Dr. Seiss that the dry atmosphere [illegible] found the condition to occur often in [illegible] in which the air is necessarily of [illegible] to work the threads. These people have the disease as marked as you see it anywhere, notwithstanding that for twelve months in the year they work in an atmosphere with if anything more than ordinary humidity.

Dr. C. M. Cobb, Lynn, Mass.—There are several very peculiar things in connection with atrophic conditions of the nose and pharynx. The typical atrophic pharynx is not a pharynx with the crust formation. The atrophy of the nose, if we begin with that part of it, is a very curious formation. The atrophy does not take place where the disease is. The disease and crust formation are around the middle turbinate, which is the last place to get well and the first to become affected. If I understand Dr. Freudenthal, he claimed that the air in the furnace is heated and the moisture is driven off. As I understand it, in the furnace the cold air passes over the hot iron and the temperature of the air is raised, but there is just as much moisture in the atmosphere after it is heated as before, although there is less relative humidity. Another thing is the escape of carbonic oxid from the hot iron, which may be an important point. It may be an irritant to these patients. Furthermore, in regard to irritation, it hardly seems probable that directly, or indirectly for that matter, mechanical irritation produces a disease of that kind. Mechanical irritation does not anywhere else in the body produce atrophy or an atrophic condition. For instance, a man working on the street may get thickened epidermis all over the hand, but the hand will not atrophy. The broadening of the face seems to me as much a result as it is a cause. A person who has atrophic rhinitis from childhood, or in other words, a person who has purulent rhinitis as a child, and this condition follows, may have the broad face because of the nasal disease, and then as it grows older and the bones develop the face is relatively broader. The cases often get well at that time, because the broadening of the face gives them more room to breathe, and better drainage from the sinuses. A very curious case of atrophic rhinitis occurred in my practice the other day. I saw a child 10 years of age, with none of the surroundings in which we would expect a case of atrophic rhinitis to originate. The child had atrophic rhinitis following an infantile vaginitis. The people supposed that the disease had migrated from one place to the other, and I have no doubt that it did so, with assistance, the contagion being carried from one place to the other.

Dr. Emil Mayer, New York City—As germane to the subject under discussion I would like to mention as a therapeutic hint the happy effect I have seen from the application of carbolic acid and glycerin to the pharynx, in a 12 per cent. solution.

Dr. Holmes—I would like to ask Dr. Mayer if he begins with a lower per cent.

Dr. Mayer—No. I use a 12 per cent. solution at once.

THE PRESENT STATUS OF OUR KNOWLEDGE CONCERNING THE BACTERIOLOGY AND SERUM TREATMENT OF DIPHTHERIA.*

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Although we may not consider this subject as exactly fitting for the deliberations of this Section, still diphtheria is to a certain extent a throat affection, and as such its discussion has a place here. The subject offers something a little different from the ordinary run of topics which engage our attention, and for that reason, on the advice of our Chairman, I take the liberty of introducing it here. It is not my intention to treat the subject from a practical standpoint, but rather to touch on the scientific advances which have been made by the bacteriologists and those engaged in working out the problems connected with serumtherapy. An enormous amount of work has been done and is being done along these lines, and an account of the latest theories advanced, even as imperfectly as given here, can not fail to be of some profit to us. The subject naturally divides itself into two phases: the first concerning diagnosis, and the second including the intensely interesting questions of immunity and serumtherapy. The diagnosis of diphtheria can not be considered as scientifically confirmed without the demonstration of the presence of the Klebs-Loeffler bacillus. No one is now content with a clinical diagnosis alone, because we know that other etiological factors may be concerned in the production of what is pathologically a diphtheritic membrane, for example, the material in crypts of the tonsils in lacunar tonsillitis. Baumgarten, who has studied many true diphtheritic membranes, states that in his opinion streptococci are often the cause of the membrane, and the diphtheria bacillus of the general intoxication.

At the present day, the Klebs-Loeffler bacillus has as distinct a position in the etiology of diphtheria as has the tubercle bacillus in that of tuberculosis. The recognition of the diphtheria germ, however, presents difficulties not met with in the direction of tubercle bacillus. Recognition of the tubercle bacillus is exceedingly easy. An absolutely accurate and positive determination of the diphtheria bacillus is very difficult, requiring time and considerable knowledge of bacterial technique. Under ordinary circumstances the appearance of simply stained specimens from an eight to twenty-four hour culture on Loeffler's blood-serum mixture is sufficiently accurate for practical purposes; but that we are able to recognize the bacillus positively by such simple means is far from the case. Diphtheria bacilli are no doubt definite specific organisms, but with such variations as to shape, size and arrangement, that we are almost justified in speaking of them as the group of diphtheria-producing bacilli. Let any one make fresh blood-serum cultures of the bacilli from different hygienic stations or bacteriological laboratories and he will find marked differences. Again there is a group of organisms often found in the throat and elsewhere that resembles the diphtheria group so closely as to be indistinguishable from them, and differing only in being non-pathogenic. To this group, which now includes the so-called Xerosis bacillus, the name "pseudodiphtheria" bacilli has been given. There is no absolutely reliable quick way of differentiating between them, the test of pathogenesis being the only sure one. In recent years many attempts have been made to devise quick differentiating methods. The most favorably considered is the method of double-staining devised by Neisser. The organisms are first stained with acetic acid methylene blue and then with an aqueous solution of bismarck brown. The bacilli present brown protoplasm and blue polar granules, the so-called Babes-Ernst bodies. Neisser and Fränkel claim the test to be absolutely accurate, if 9 to 24-hour-old cultures on Loeffler's blood-serum mixture, grown at a temperature between 34 C. and 35 C., never above 36 C., are used. That this method is certain is disputed by many competent observers, among them Loeffler. Up to the present day we may say that the variations of neither the true nor pseudo group have been accurately determined. As the disease presents a definite clinical picture while the organisms vary, this variation is probably due to differences in the soil. This much we can at present say of the diphtheria bacillus. It is a bacillus subject to as yet undetermined variations. It can not be absolutely differentiated from the pseudo group, except by animal experiment. In practice a reasonably accurate quick diagnosis can be made in nearly all cases. We are more likely to overlook germs when present than to err on the side of an affirmative diagnosis.

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We now come to questions of immunity and serumtherapy. It is in the cure of diphtheria that the result of scientific research into these obscure fields has been of the greatest practical worth. Bacteriologists have been trying to work out a theory as to what happens when an animal is made immune by repeated injections of toxins, and as to the real nature and working of the substances—antitoxins—which appear in the blood of an animal so immunized. There has never been any very satisfactory theory offered as to the cause of either natural or artificial immunity until Ehrlich a few years ago formulated his very original theory. According to him, no animal can be inoculated with a bacterial disease unless it has in its body-cells a substance capable of combining with the bacterial toxins. This act of union between this substance in the cells and the toxins gives rise to the fever and other general symptoms of the disease. This substance he considers a sort of side-group in the molecules of the cell and serves to fasten the toxin, altered by the combination, in the cell. Natural immunity, while it may be due partially to phagocytosis or to the germicide properties of the alexins of Buchner, is, according to Ehrlich, in a large measure due to the absence of this side-group or side-chain of molecules, this so-called "Giftbindende Substanz." We can get at the theory best by applying it to the disease diphtheria. The organisms begin development in the throat of the patient; aside from the local inflammatory effect, virulent toxins are produced and absorbed. These toxins combine with the "Giftbindende Substanz" in the cells, and the act of combination causes such a cellular change as to produce the fever and other symptoms of diphtheria intoxication. If the toxins are produced in large amounts the reaction will be such that death results; the cells are too severely damaged to admit of further physiologic function. If, however, the poison is less in amount or the physiologic resistance of the cells relatively greater, further cellular activity is not inhibited, but the cells are stimulated and an effort is made by nature to restore the "Giftbindende Substanz" used up in combining with the toxins. Nature here, as elsewhere, in accordance with known physiologic laws, not only reproduces but overproduces the "Giftbindende Substanz" used up, and the overplus is taken up by the blood. The overplus is then available for immediate combination with the toxins, being produced from the local focus in the throat, and renders them innocuous. The disease becomes in this way self-limited and recovery takes place. The self-limitation of infectious diseases is due, according to this theory, to the overproduction and absorption into the blood of the very same cellular substance which while still in the cell allows of the general reaction of the organism to the infectious toxin. Diphtheria antitoxin is nothing but this "Giftbindende Substanz" produced in overplus and taken up by the blood. The self-limitation of an infectious disease and its cure by the injection of ready-made antitoxin are similar processes. In the first instance the antitoxin which limits the disease is produced within the patient; in the latter, the antitoxin is introduced already formed. Antitoxin is a substance normally present in the animal cells, which allows of the combination of toxin with the cells and the production of the disease, but which, when in superabundance and in the blood, there combines with the toxins, and hence renders them innocuous—a similia similibus theory of the first rank.

Such a principle of cure as this is isopathic. Medicine has invented many so-called principles of cure: the allopathic principle, where the disease is to be cured by the administration of a remedy whose physiological action is opposed to the symptoms of the disease; the etiological principle, where the remedy is directed toward the destruction of the cause of the disease and nature is left to herself after the cause is removed; and, as the latest development of our knowledge, this isopathic curative principle. The various infectious diseases can not be treated on the etiological principle, because we have found that the animal cells are more sensitive to the various disinfectants than are the cells of bacteria; hence the bacterial cells can not be killed by anything short of a quantity which would destroy the animal cell. The isopathic principle is the one from which we are to hope for a solution of the problems of infectious diseases. How often are we forced to recognize the truth that there is nothing new under the sun? Hippocrates said: "That which produces a disease also cures it."

Giftbindende Substanz—antitoxin—is not antitoxin until it gets into solution in the blood; consequently antitoxin has no effect on toxins already combined with the cells, and can do nothing toward remedying the evil effects of such combination when once formed. All antitoxin can do is to neutralize toxins before they get to the cells. Hence, the practical necessity of employing antitoxin early in the course of the disease. The process of immunizing becomes under this theory but a process of cell stimulation; the repeated and ever-increasing doses of toxins injected stimulate the cells to the overproduction of large amounts of antitoxins. For the production of the antitoxin, either that needed to limit the course of the infectious disease, or that which we desire to obtain in large amounts for serumtherapy, it can be readily understood that a nice poise between the amounts of toxins and the cellular resisting power of the animal must be maintained. Let the toxins be relatively too strong and cellular activity is stopped; let them be too slight in amount and the stimulation is not sufficient to produce any overflow into the blood. Take a disease like tuberculosis; here the toxins are so small in amount or slight in toxic effect that no antitoxins are produced, and the disease steadily progresses. Lately, Behring has been able to immunize cattle to tuberculosis by using injections of enormous amounts of tubercular toxins. From the blood of such animals he obtained an antitoxin which prevents tuberculosis in guinea-pigs. This theory of Ehrlich carries with it, of course, the idea of a direct chemical union between toxin and antitoxin. Buchner, Roux and their adherents still cling to a cellular theory of the action of antitoxin upon toxin, claiming that the agency of the living cell is a necessary factor in the action of antitoxin upon toxin.

Ehrlich's well-known experiments with the vegetable poison ricin indicate, at least, that the chemical theory is the correct one. Animals can be immunized to ricin and an antiricin serum obtained. Ricin has the property of precipitating in a peculiar manner the red blood-corpuscles of defibrinated blood. This is purely a chemical phenomenon. When ricin and antiricin are mixed in a test-tube, the mixture loses this coagulating and precipitating property. Ehrlich claims that a sort of double salt is formed by the un [illegible] antiri [illegible] this double salt not having [illegible] ricin alone. Just this sort soned, takes place when any antitoxin acts upon toxin. If toxin, in producing a disease, combines chemically with a cellular substance, then, in the cells specially affected, we should not be able to find any toxin. This point has been investigated in tetanus. Tetanus toxin affects the cell of the central nervous system. This has been proved by direct examination post-mortem. Now, when the body of an animal dead from tetanus is examined for toxin, it may be found in the blood and various organs, but not in the central nervous system. That portion affected by the poison is the only portion absolutely free from it, showing that a combination of the toxin and cellular substance must have taken place. The above theory is the latest and most generally accepted one concerning diphtheria immunity and serum-therapy.

As far as the practical results of antitoxin treatment are concerned, it is almost universally admitted that the mortality has been reduced nearly two-thirds. Cases still die, as we must expect when we consider the theory on which the action of antitoxin is based. A great point in the therapy is to employ the serum early, before damage is done, because antitoxin does not repair destruction already accomplished. Antitoxin simply neutralizes toxins produced after its introduction; repair and cure are left to nature. We may expect always to find some individuals so sensitive to the diphtheria toxin that the initial amount absorbed during the first day or so of the disease will be sufficient to cause death, and we must therefore expect a certain percentage of deaths. Another cause of failure, is the injection of too little antitoxin. At least 2000 units should be used and repeated every twelve hours if necessary. Any harm done by antitoxic serum is due entirely to outside substances in the serum, and the more carefully this is prepared, the less liability of trouble. Now-a-days we get perfectly reliable serum, and as improvements in its production and preservation are made we hear less and less of the various undesirable complications. Antitoxin as a chemically pure dry substance would be the ideal.

The immunity produced artificially by inoculation with toxins or by injection of antitoxic serum is short-lived. The "Giftbindende Substanz" in the blood, on which the immunity depends, is soon excreted and gotten rid of. Protective inoculation does not last above three or four weeks. When large doses are given, excretion is more rapid and the duration of immunity hardly as long. We are indebted to bacteriology for this new principle of cure, this *isopathic curative principle,* and from its development, if it shall stand, we are to expect great things for the future.

EPITHELIOMA.

REPORT OF TWO CASES—ONE OF SLOW AND THE OTHER OF RAPID GROWTH.

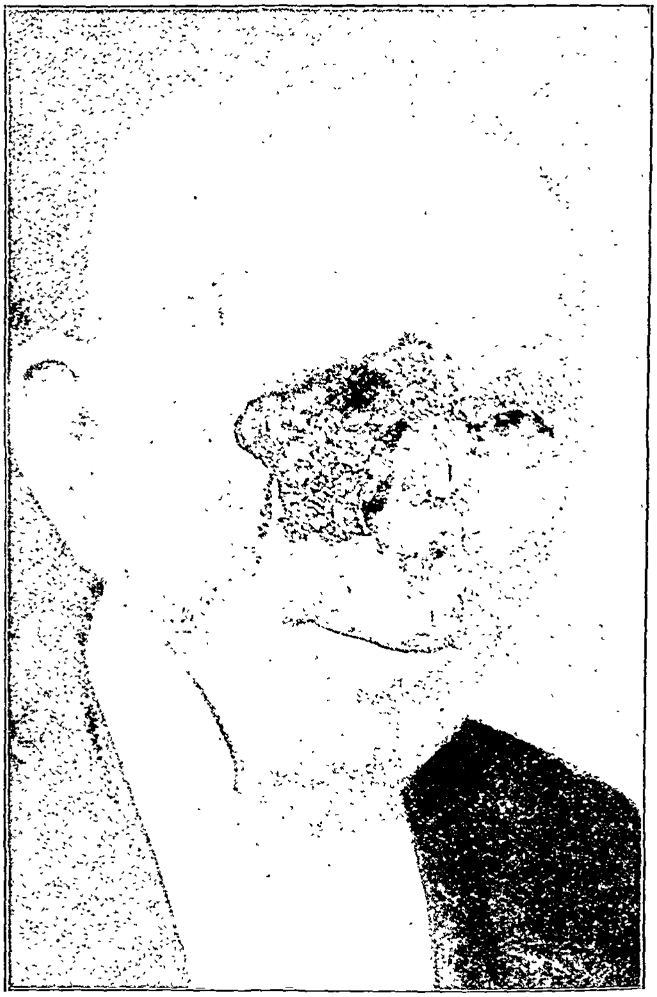
CHARLES J. WHALEN, M.D., LL.B.

CHICAGO.

The first case represented by the accompanying cuts is of especial interest, as showing how long an epithelioma may remain superficial, and it is also of some interest because of the superficial metastasis which was marked before death.

M. G., 85 years of age, widower, first consulted me May 25, 1897, desiring to be relieved of the severe pain radiating from the extensive ulceration about the right orbit, as represented in Fig. 1. The pain he described as being very severe at times and lasting in the neighborhood of sixty minutes, when it might disappear only to return again some hours later, or it might not reappear again for twenty-four or forty-eight hours.

The trouble on his face is said to have started from a scratch on the nose with a rusty nail twenty years before. The scratch never healed, but it remained very small and seemed to be stationary for a trifle over four years. At the end of that time it began to grow slightly, and up to three years before his first visit to me it had only acquired a size equal to about the diameter of a quarter of a dollar. One year before I saw him it involved the upper part of the lower eyelid. From that time until he first visited me its growth was very rapid. At my first examination, I found it had completely destroyed all the soft parts from the supraorbital ridge to a horizontal line extending 1¾ inches from the ala nasi. It had also extended across the bridge of the nose to the inner canthus of the left eye and down the nasal bones and involved all the soft parts of the nose over the right side and to within 1.25 centimeters of the ala of the nose on the left side.



The right ear began to enlarge in January, or four months before his visit to me. At first, there came a little induration directly in front of the tragus; this broke down and discharged. The ear was ulcerated upward, 4 centimeters from its lower extremity, as seen in Fig. 2; there was also considerable swelling and ulceration on the cheek directly in front of the center of the ear. A piece of the swelling of the cheek was excised for microscopic examination. The microscope showed an ill-formed epidermis with no interpapillary cones, but many embryonic ingrowths destined to form hair follicles or sweat-gland. Near the center of the epidermal part there was a cavity, projecting from the base of which into the corium is an irregular mass of cells rather lobulated, for the most part showing no basement membrane. Its lowest cells had grown down into the corium, as is characteristic of epithelioma.

December 15 the patient complained of dyspnea and claimed that the pain was much more constant and severe than at the first visit. The ulceration had progressed and had involved the left eyelid to a considerable extent. There was not much wasting and the cancer cachexia was never developed. He died Jan. 4, 1898, just twenty-one years after the first indication of the disease.

While superficial cancer of the skin is usually of exceedingly slow growth, sometimes taking years to attain any considerable size, the following case constitutes a marked exception to the rule. In June, 1896, an unmarried laborer, aged 40 years, came to the clinic of Prof. Wm. T. Belfield and myself at Policlinic Hospital. He complained of a small growth on the right side of the nose just where the nose-rest of his glasses came in contact with the skin. The tumor was nearly as large as a pea, the walls rose suddenly from the surrounding sound skin. There was very severe pain radiating from it every few minutes, although the growth was not red or inflammatory, neither was it sensitive to pressure. It was superficial and easily movable with the skin, and had the appearance of an innocent wart. The patient was positive that the first appearance of the disease was only two weeks previous to his coming to the hospital. He claimed that the tumor had been growing very rapidly the previous week and that the severity of the pain had been commensurate with the growth. Wishing to observe the case a little more carefully, he was given a mild local application and asked to return again. At his next visit, one week from the first one, the tumor was found to have increased 100 per cent. It was much more painful, but still showing no signs of inflammation.

At the request of Prof. Belfield, I removed the growth and the patient left the hospital one week later. He was free from pain, and union of the wound was perfect. Microscopic examination showed the early stage of the disease well marked. There was projection downward of cells resembling deformed interpapillary processes. The corium showed marked inflammation and numerous tubular, rounded and sebaceous gland-like growths, while infiltration of the free spaces with epithelial cells was distinct. Even below the normal epidermis in the upper reticular part of the corium, there were numerous infiltrating epithelial cells. Three years and ten months after the operation on this rapidly growing epithelioma, I met the patient accidentally, and he was enjoying the best health and the scar was perfectly smooth and healthy looking.

These seeming warts and dry fissures in people past middle life are always suspicious matters, and they are likely to escape detection previous to the moment of ulceration, when the degenerative character is impressed on the physician. If allowed to progress as in the first case, it will invariably proceed to a fatal termination. Had Case No. 1 been operated upon early, as was done with the second, the results would have been just as satisfactory and he would have avoided the awful disfigurement which annoyed him greatly during the last few years of his life.

34 Washington Street.

FACTS REGARDING CRIMINAL ABORTION.*

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CHICAGO.

I know a man of marked erudition who wrote a book on the primitive religions. His opening paragraph is as follows: "The facts in this book are true." There is more common sense than rhetoric in this remark. We are all liable to be mistaken in our estimate of conditions. Too many statements are accepted as true simply because frequent unchallenged repetition has made us believe there is no possibility of contradiction. Continued reiteration dulls the sense of perception and discourages investigation. Moreover, social conditions change, laws become obsolete, public opinion varies and our appreciation of justice is often irrational and selfish. For this reason it is important to know the truth. In a consideration of criminal abortion no prophylaxis is consistent without a knowledge of etiology, and discussion is without profit unless the naked facts are presented.

When married women become pregnant, I estimate that 80 per cent. of them wish they were not. There rarely seems to be a convenient season for having babies. If the woman has one child she is apt to think it is too soon to have another. If she has never been pregnant, it is too soon after marriage, it interferes with a trip somewhere or some social engagement, or else she is too delicate, or her husband can not a[illegible] it. Some excuse is usually found for [illegible] act[illegible] [illegible]l in cases some attempt is made to re-establish menstruation.

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* Read at a meeting of the [illegible]

The older ladies of the community are prolific in advice. Hot drinks, hot douches and hot baths are recommended. Violent exercise is suggested and jumping off a chair or rolling down stairs is a favorite procedure. Certain teas are given, especially an infusion of tansy and pennyroyal. Cathartics are supposed to be useful, and the different emmenagogue pills are too easily procurable. As a last resort ergot may be taken, or, if the woman is ignorant, arsenic, metallic mercury or other mineral poison may be used, often with a fatal result.

It is remarkable that among the most intelligent, refined and religious women of civilized communities a suspicion of wrong-doing is so rarely entertained. I believe this is because the idea prevails that there is no life present until the beat of the fetal heart is perceptible. The history of the earliest nations records the fact that, with the sole exception of the Jews[1], criminal abortion has always been a well-known practice. To-day it is as prevalent as ever, and the only real restraint I know of is the teaching of the Catholic church. It is improbable that any change of sentiment will occur until there develops some systematic effort to teach the truth regarding all matters connected with the reproduction of the species. Judging from my own feeble efforts in this direction,[2] a maudlin sentimentality and a narrow-minded conception of the duties and privileges of the medical profession will too often interpose objections even to the scientific consideration of these important subjects in medical societies and in medical journals. When a man like Howard A. Kelly, of Baltimore, claims that the child should be kept in ignorance of sexual matters; when he says, as he said to me at the Columbus meeting of the American Medical Association, that the discussion of the subject is attended with filth and we besmirch ourselves by discussing it in public, it is high time that our efforts began with an attempt at the education of some of the eminent members of the profession, so that they may know that there is more in gynecology than the passing of a ureteral catheter, more in the practice of medicine than the perfection of operative technique or the collection of fees.

The methods of procuring abortion recommended by the laity are usually futile. The tenacity with which the fecundated ovum clings to its attachment when once it is anchored to the uterine wall is a matter of surprise. Women have fallen from great heights and have sustained injuries sufficient to fracture limbs; they have been beaten to unconsciousness, and, indeed, have suffered even fatal traumatism without severing the connecnection between mother and child. It may be of interest for me to cite a few cases:

A woman, about seven months pregnant, fell down stairs and struck astride the edge of an upright open barrel. She complained of intense pain in the left pubic region on the least motion. Whitaker found an oblique fracture of the body of the left os pubis. There was little displacement, no lesion of the bladder or rectum, and no attempt at miscarriage. A roller bandage was applied around the pelvis, opiates were administered and the urine was drawn with a catheter for three days. In six weeks the patient could walk about the room. Normal labor occurred at term. The fracture reopened and symptoms of peritonitis presented themselves. They yielded kindly to treatment, and the patient recovered.[3]

A woman, 19 years of age, and about six months pregnant, jumped from a second story window, and immediately got up and ran away. Soon she could not walk, and was obliged to remain in bed three weeks, complaining of violent pains over the right hip. For three days after the fall she had a slight bloody flow from the vulva and complained of lumbar pains. Nothing abnormal was found on examination and the patient left the hospital in a few days without further complications.[4]

Lest it be thought that injuries of this kind are usually devoid of danger, it is proper for me to say that my records show many cases of variable traumatism, often fatal, due to falls,[5] lifting,[6] jumping,[7] crushing,[8] kicks,[9] tossing by a cow,[10] and other accidents. In one case a woman, eighty days pregnant with twins, lost one fetus as the result of a fall from a wall 10 feet high, but was safely delivered of the other at term.[11] There are also cases where very slight injury has produced abortion and sometimes the death of the mother as well, and where the simple procedures advised by the old ladies have produced disastrous results.

While walking across her bedroom in the dark a woman ran against the corner of a table, striking her abdomen, though not with any great force. She thought no more of this occurrence, but two weeks later she had an abortion, and an examination of the fetus, which was not quite four months old, showed that it had been struck upon the spine by the blow referred to. Thomas claims that this was unquestionably the cause of its death and the resulting abortion.[12]

The use of vaginal douches of hot water sometimes induces premature uterine contraction and causes abortion. In a case tried some forty-five years ago in England, in which abortion occurred in consequence of the injecting of some unknown liquid into the vagina, an acquittal was ordered by the judge on the ground that the liquid was not proved to be noxious.[13] In the United States such proof is not required. It suffices that the intent be proved, for the crime consists in the attempt and not the result. Indeed, there is still crime, even if the woman be not pregnant.

The use of alum-water injections has caused death. A woman four months pregnant was heard walking in her room and an hour afterward was found lying dead on her face, a saturated solution of alum on one side and a syringe on the other. The autopsy showed the decidua vera and placenta partially detached and small blood-clots behind them. There was no sign of contusion anywhere. It was decided that the alum solution had entered the uterine sinuses and thus by way of the venous circulation reached the heart, where more clots were found, which were deemed to have been the cause of death.[14]

The methods mentioned are usually persisted in until about the third month of pregnancy. By that time the woman is no longer in doubt as to her condition. She can no longer persuade herself that the cessation of menstruation is due to taking cold. She realizes that she is pregnant and that more effective measures are necessary at once, for she has the idea that after another month there are no means of inducing abortion without materially increasing the danger. She attempts more radical measures, or she consults her family physician, a midwife, or some physician recommended as an expert by the ladies of her acquaintance.

I can not refrain from saying in this connection that the induction of abortion is, to my mind, the most reprehensible of medical practices. I wish I could truth-fully add that none but disreputable men could be persuaded to undertake it. I know from my experience of twenty-two years as a medical man in this city and from the observation of many cases of criminal abortion in private, hospital and medicolegal practice, that the public, and many physicians as well, look upon the induction of abortion as a matter of routine. I have been told by prominent men that they expected their physicians to take care of them. I have lost the patronage of well-known society women because I refused to "help them out," as they expressed it. I have noticed that pregnancy, in some of these women, did not go on to term, and I know who is their physician now.

And yet, if I am honest, there is another aspect to this subject which can not consistently be ignored. I have seen girls of 13 well advanced in pregnancy. I remember a little one whom I saw in a maternity with which I am connected. All unconscious of any wrongdoing, she sat, with the waiting women, contentedly playing with her doll. There is something wrong with our society if such things can exist. It seems to me that one potent remedy is the instruction of children so that they may know the dangers that beset them. There is, to my mind, something lacking in the intelligence of those men who would deny to the child all knowledge of the usual consequences of sexual intercourse. It is manifestly unjust to condemn her when no attempt has ever been made to give her the slightest inkling of the truth.

The manipulations resorted to for the induction of abortion consist of the injections of liquids or the insertion of foreign bodies within the uterus with a view of exciting uterine contraction by their presence, or rupturing the membranes so as to occasion the death of the fetus or of separating fetal from maternal surface. As a matter of interest I may state that I have known women or their attendants to make use, for this purpose, of catheters, slate or lead pencils, knitting or crochet needles, glove-stretchers, hat-pins, nozzles of syringes, picture wire, hair-pins, corset bone, lemonade straws, toothpicks, pieces of chalk, tents of sea-tangle, tupelo, sponge or laminaria, as well as the direct intrauterine injections of glycerin or water, plain or variously medicated.

This is only my individual experience. Cases are recorded of the employment of the greatest variety of objects, sometimes with most serious and fatal results. The history of obstetric medicine from the earliest periods down to the present day reveals the practice of most barbarous methods, and shows most pitiable results only equaled by the traumatisms and fatalities occurring as a consequence of ignorant or unskilful attempts at delivery at term. I will not go into details regarding these practices, which Ploss has described most fully.[15] I saw one case at Biskra, in the Algerian Sahara, where a woman of the tribe of Ouled-Nail aborted following the insertion into the uterus of a sharpened piece of wood resembling a skewer. Dr. H. Smith reports to the London Obstetrical Society an instance of a woman producing abortion on herself thirty-five times by means of a knitting needle.[16]

The injuries that result from the use of these measures are necessarily varied. The average pregnant woman is ignorant of surgical procedures and the difficulty of attempts at abortion on her own person is apparent. Even in competent hands, under justifiable circumstances, the operation has not seldom proved disastrous. When the parts are diseased or structurally weakened, the induction of abortion or of labor has sometimes resulted in perforation or other injury, or has been the starting-point of a fatal infection.

Death has occurred simply from the introduction of a foreign body into the uterus. Vibert tells of a girl four and one-half months pregnant who had a canula inserted into the cervix. When the abortionist was about to inject some water the girl fell to the floor and died in a few minutes. At the autopsy all organs were found to be healthy, including the uterus, which presented only a few "fibroid bodies," not larger than a nut. Death can only be explained by a reflex action, by an "inhibition" of the nervous system provoked by irritation of the cervix.[17]

The intrauterine injection of fluids—preferably of glycerin—has of late years been recommended as a means of inducing abortion. It is said to have the advantage of causing a rapid separation of the membranes from the maternal surface and of speedily exciting uterine contractions. I have had no experience in this method of treatment, but the intrauterine injection is not devoid of danger, as numerous cases of injury clearly show. Death may occur in consequence of the entrance of air into the circulation. Martin, of Berlin, has seen two cases of this character after the use of injections, and additional cases have occurred in this country.[18] Moreover, the instrument used has caused traumatism, in one instance amounting to a perforation of the uterus and resulting in metroperitonitis and death.[19] Mercurial poisoning has also occurred from the use of bichlorid solution.[20]

When foreign bodies are used to produce abortion, especially by the woman herself, the uterus is not always entered. Thomas's case is well known. A physician's wife, thinking herself pregnant, passed an umbrella rib, not into the uterus, but to the right of the cervix, through the vaginal wall, abdominal cavity and diaphragm until it penetrated the right lung to the extent of two or three inches, in which position it was found at the autopsy. The foreign body had remained *in situ* for at least a week and it was observed that an abscess had formed in the lung tissue around the point. Abdominal section had been proposed but rejected.[21]

Javaux tells about an elastic sound which encircled the cervix and was wound around it in a knot. This sound was introduced by a midwife to induce abortion, and the desired result was obtained in two weeks. The sound, however, remained in place for two years and a half, causing abdominal pain, especially during menstruation, until it was removed with forceps.[22]

The injuries resulting from the use of catheters and other foreign bodies introduced within the uterus with criminal intent, and as a rule by the vagina, vary from a laceration to a complete internal perforation. In many instances such an injury heals without serious disturbance of the general health, unless there be infection. In the latter case, septicemia and salpingitis, often with pyosalpinx, are the usual results; but all the well-known effects of an extension of infection are possible. In my own experience I recall a case seen in consultation with the late Dr. Nesbit, of Sycamore, Ill., in which there occurred a metastatic abscess of the brain, first recognized at the autopsy, and another case, which I treated in the Presbyterian Hospital for four months, where fourteen abscesses formed in the patient's legs and arms.

The subsequent history of the foreign body is of interest. Its presence or absence is an element in the prognosis and modifies the treatment very materially. Let us consider the possibilities in detail [illegible] i of [illegible] it may perforate the uterus and pass through into the peritoneal cavity.

I had a unique case of this kind some years ago. A physician was endeavoring to produce abortion in a woman about three months pregnant, by means of a silver male catheter. The patient was nervous and had suffered from melancholia. The point of the catheter was introduced within the uterus, when suddenly the woman made a convulsive movement, and the physician, to his horror, saw the catheter disappear. When I was called to the patient, some hours afterward, I recognized a uterine perforation of the posterior wall through which I could pass a sound some 10 to 15 cm., but I could not feel the catheter within the abdominal cavity. Celiotomy was performed, but nothing was discovered in the pelvis. Finally the intestines were brought out of the abdominal cavity and after some little search I found the catheter under the liver and removed it. The uterine wound was closed with three sero-serous sutures and the right tube and ovary were removed, for it was noticed they were diseased. The patient made an uneventful recovery, and some six months later, after a normal labor, was delivered of a child, which is now 11 years old.

Dr. Gill Wylie reports a case presenting certain points in common with mine. A girl inserted a glass rod into the uterus. It slipped beyond her reach, probably perforating the uterus. The following day the girl went to her work as typewriter. Some five weeks afterward she aborted, and about two weeks after that time a tumor, the size of an egg, was felt in the left ovarian region. Celiotomy showed adhesions about the uterus and left ovary. This ovary and tube was removed, as well as the glass rod which was found near the left kidney. No point of perforation was found. The patient made a good recovery.[23]

Dr. Hektoen has on two occasions, at post-mortem examinations, found perforations of the uterus, made during attempts at criminal abortion; in one instance he found a catheter under the liver.[24]

A case is reported where at the autopsy of a young woman who died when three or four months pregnant, an irregularly-shaped hole was seen in the posterior wall of the uterus, and directly behind it, lying transversely in the pelvic cavity, was found a sea-tangle or laminaria tent about the size of a thumb. Death was due to septic peritonitis, the result of a criminal abortion. It is probable the tent was inserted in the uterus and afterward an attempt was made to remove it. One end of the tent was split and showed marks of forceps teeth or something of the kind and the string was gone. It is probable the operator became frightened and made a desperate effort to get hold of the tent with the forceps and in so doing he forced it through the uterine wall.[25]

In August, 1892, I saw Wertheim perform a Cesarean section in Schauta's clinic at Vienna. The omentum, if I remember correctly, was to some extent adherent to the parietal peritoneum. At all events, it was injected and showed evidence of inflammation, but the most curious circumstance in connection with this case, which, by the way, was operated on in strict accordance with Sanger's directions and resulted successfully for both mother and child, was a large needle about 7 cm. long, which was found imbedded in the omentum. It is hardly possible a needle of this size could have wandered into this curious location. It seems to me probable that it had entered the peritoneal cavity by way of the vagina in an attempt at an interruption of pregnancy.

Then the foreign body may remain in the uterus, causing various sequelæ in consequence of its presence, sometimes without producing abortion. I instance a few cases.

A woman at the Hospital St. Louis, in Paris, was admitted with hectic fever and dull pains in the loins and hypogastrium. A hard, irregular tumor filled the pelvis and extended into the right iliac fossa. A wooden spit 12 cm. long was removed from the uterus, where it had remained since an abortion produced by it two years previously.[26] This woman gradually recovered.

There is a case of an operation for sinus of six months' standing situated over the sacrum. The following day pus escaped from the vagina and a foreign body was felt partly in the vagina and partly in the uterus. It was a bougie over 5 inches long and had been introduced eleven months previously, abortion following in two days.[27]

Sometimes the foreign body which has produced the abortion remains within the uterus for a variable period, without appreciable inconvenience. Bunge speaks of a needle being pushed into the internal os and remaining there twelve days after the abortion.[28]

Occasionally the foreign body, retained within the uterus for a considerable length of time, becomes the starting-point for a suppurative process, through the agency of which it is expelled into the adjoining viscera or penetrates the neighboring tissues. I will speak of two cases of this kind.

A seton needle was introduced into the uterus of a young girl for criminal purposes. A three months' fetus was wounded by the instrument and expelled. Two days afterward the secundines followed but the needle remained *in utero.* About a month afterward an abscess formed in the inguinal region, accompanied by severe pain. On the seventy-fifth day the needle, six inches long, appeared at the surface.[29]

A woman used a branch of a tree to penetrate the uterus. She pushed it in so firmly that it became imbedded in the region of the kidney. The twig, which was six inches long and as thick as a goose quill, remained in the pelvis five months without the patient's knowledge and finally penetrated the rectum.[30]

A case is reported of fatal injury of the internal iliac artery. A woman, six months pregnant, consulted a charlatan, who performed an operation, which at the end of twelve hours was followed by the death of the patient and brought the man into custody. The autopsy showed an enormous quantity of blood, partly coagulated, in the abdominal cavity. The posterior wall of the uterus showed an opening of the diameter of an ordinary sound extending to the right iliac artery, which was itself perforated a little below its origin. Three other punctures had their starting-point in the cervix. In spite of these punctures the fetus had not been reached, the membranes remained intact.[31]

The cases I have cited are exceptional. The usual history is different. There occurs a death, under suspicious circumstances, of a woman suspected to be pregnant. An autopsy is held, resulting in the discovery of lesions due to violence and the presence of sepsis as the determining cause of death. There are many cases of this character recorded in medical literature. Tardieu especially has fully described them.[32]

Evidences of injury are usually found in the wall of the uterus, and consist of lacerations varying in extent from an abrasion to a perforation. The cervix may be bruised and gangrenous inflammation, diphtheric patches or diversified signs of infection may be noticed.[33] Often the fetus will be found enveloped in its membranes, which may be intact and free from inflammation. The woman in such a case will have died in consequence of an unsuccessful attempt at abortion.

When there is a trial in criminal abortion cases the defense is apt to be an attempt to demonstrate the occurrence of the lesions from external violence, such as a fall or shock, or the assertion that the injuries found are due to disease. Such a defense is, as a rule, easily disproved. A uterus in the early months of pregnancy can not be injured by a contusion severe enough to determine a serious inflammation nor a disorganization of the muscular tissue.

Of course, it is known, as Barnes has pointed out, that the non-pregnant uterus may burst and that rupture may occur at any period of gestation independent of labor. In the former case there is disease of its tissues or there is a closing of the os and an accumulation of fluid in the cavity. During pregnancy, when rupture occurs, independent of trauma, the uterus may have been the subject of Cesarean section or the seat of tubercular degeneration. Cases of spontaneous rupture, or rupture occurring after a long walk, severe vomiting or other apparently trivial cause, are recorded as early as the third month.

In spite of these rarities of obstetric practice, the medical expert will have but little difficulty, as a rule, in determining the probabilities. A microscopic examination of the uterine tissues at the seat of the lesion will be of value, for if no evidence of disease is found the presumption of an external agency will be strengthened. An ordinary abortion does not produce rupture of the uterus nor other extensive or serious lesions. Moreover, the character of the lesion, the appearance of the perforation, if there be such an injury, the color and condition of its borders, the consistency of the neighboring parts—all these will indicate whether the solution of continuity is recent or not, and will assist, in connection with the other pathologic conditions observed, in arriving at a definite conclusion.

I must call attention to two curious cases where women produced abortion on themselves by forcing respectively a hairpin and a knitting-needle into the uterus through the abdominal wall. In the first case a young girl was delivered of a dead infant at term. After she left the hospital it was learned that she had driven a long hairpin through her navel to a great depth with the avowed intention of destroying the child. She had suffered great pain afterward, which she concealed. It was noticed that some pus issued from her umbilicus after delivery, but this discharge gradually ceased and the patient left the hospital in good condition.[33]

Duncan relates the other case. A girl six months pregnant tried to produce an abortion by thrusting a knitting-needle through the vagina into the uterus. Failing in this attempt, she forced the needle through her umbilicus. Two days later abdominal section was performed and the tip of the needle was seen projecting from the fundus uteri. It was seized with forceps and removed, a stitch being inserted in the uterine puncture, as there was some hemorrhage. Two days later the patient miscarried and a black spot was seen on the child's buttocks where apparently the needle had penetrated. The mother recovered.[34]

The facts regarding criminal abortions are not fully stated without reference to the remote effects occasioned by repeated attempts—often successful—at an interruption of pregnancy. A few days ago I met a robust married woman who told me she had had eleven abortions induced by her family physician during the past six years. She appeared to be well, and perhaps she was. Most women live through the ordeal, or our graveyards would be full to overflowing. The etiologic relationship of criminal abortion to new-growths and degenerative changes has not been fully determined. The connection between many diseased states of the nervous system is well recognized, but not very satisfactorily explained. At the same time it is certain that induced abortion is often the cause of some infection with all that the word implies. In addition to the sequelæ of direct and indirect traumatism, already referred to, it is known that there often results some condition which makes pregnancy impossible. The sterility of prostitutes, remarked by Parent-Duchatelet, is estimated by Fritsch at three-fifths of all such women. Among other women who have suffered abortion during the early years of their married life, it is often observed that pregnancy is impossible when the time comes for a child to be most ardently desired. Pitiable, indeed, is the condition of such a woman. Regrets are useless now. There is only remorse and perhaps indignation tnat the medical men who, in her youth, acceded to her request, had not the manhood to tell her of her folly and to warn her of her danger.

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Disinfectant for Instruments.

℞.	Olei olivæ	ʒvi	24
	Liquoris potassæ	ʒvii	28
	Alcoholis	ʒxxx	120
	Aquæ destil	ʒxvii	68

M. Sig. Wash the instruments thoroughly or wrap them in cotton saturated with the disinfectant.

Dr. Karl Gilson, in *Deutsche Med. Ztft.*, gives the above formula for a rapid method of sterilizing instruments, and states that the hands of the operator and skin of the patient may be disinfected with the same agent. The solution has no effect on the instruments. —*Jour. Surg. Tech.*

THE HEALTH AND WEALTH OF BENGUET PROVINCE, P. I.

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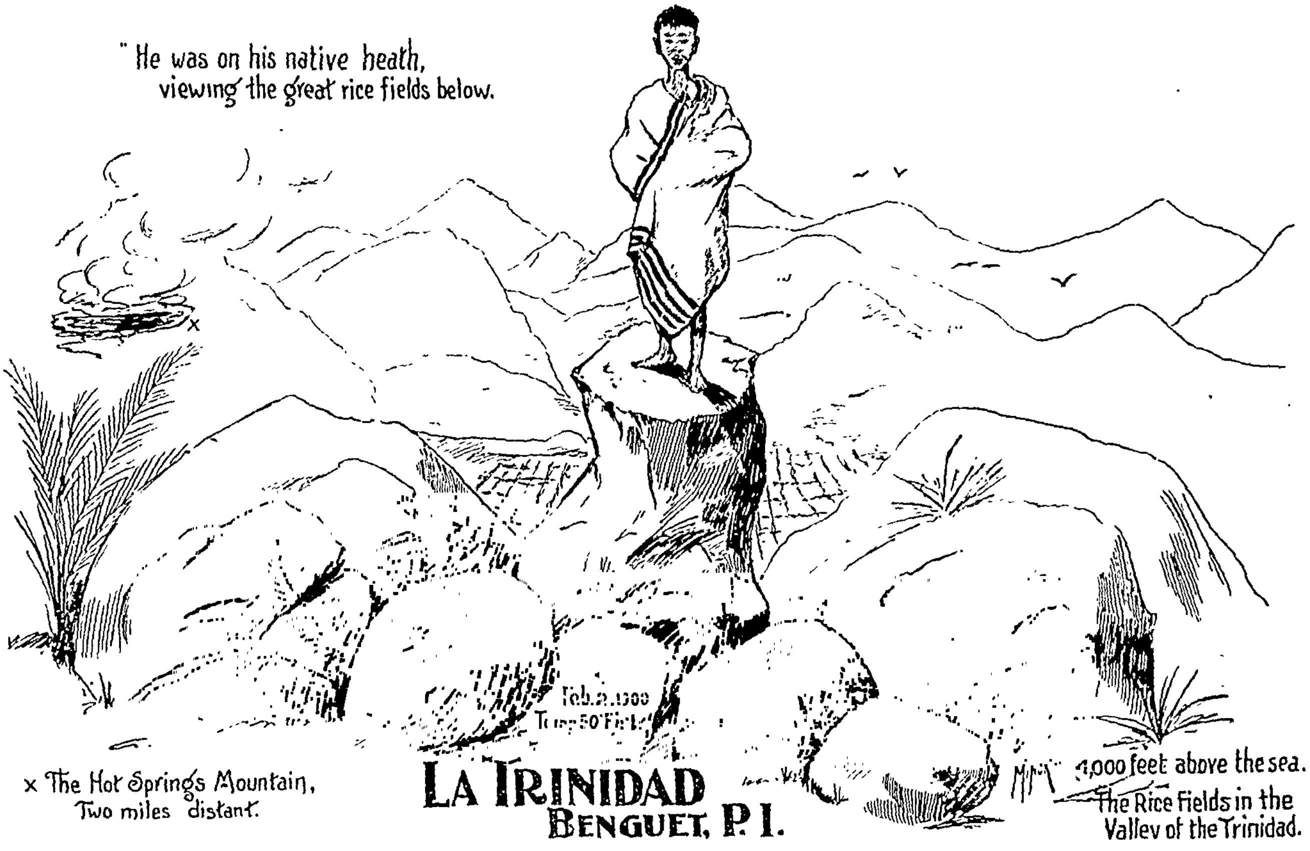
ROMBLON, ROMBLON ISLAND, P. I.

To feel your feet slipping over pine logs in the Philippines and to actually lie down under tall pines and cedars by a rushing, sparkling stream of cold mountain water after a hard day's "hike" through mountains covered with hemp, banana, cocoa-nut, molava, narra and other foreign growths, poetic and useful enough in their place, is to the American soldier like being transported by a miracle from a foreign land to the home of his youth. Such were the nostalgic prodromata noticeable February 1, after marching twenty-four hours over the steepest of most dangerous trails from the China Sea to the mountain side overlooking the little valley of La Trinidad, Province of Benguet. Trinidad is 4000 feet above sea-level, with its protecting circular crest or crown of little mountains enclosing the valley that was once upon a time furiously pouring forth molten lava, but now a most beautiful green plain of some three thousand acres, watered lavishly by the Trinidad river. As we viewed the gorgeous panorama the river appeared to disappear, and so it did, for we learned later that at the northeast corner of the valley the river has tunneled its way through the mountain, to reappear on the east side, water "the great rice fields," and then wend its way westward to the China Sea. The balmy, refreshing air, the homelike odor of pine and cedar, together with the delicious water, present to the doctor but one idea, "What an ideal health resort!"


" He was on his native heath,
viewing the great rice fields below.
x
Feb. 2. 1900
Temp. 50° Fah.
x The Hot Springs Mountain,
Two miles distant.
LA TRINIDAD
BENGUET, P. I.
4,000 feet above the sea.
The Rice Fields in the
Valley of the Trinidad.

Approximately 4000 feet above the sea in this wonderland of mineral and vegetation, there flows in torrents an inexhaustible supply of hot and cold waters. During three months field-service in the vicinity of Trinidad, I was enabled to learn much concerning the customs of the people, the salubrity of the climate, and the value of these waters. Having resided in Hot Springs, Ark., for the past twelve years, I am naturally interested in the subject of hydrotherapy.

Benguet Province is principally peopled by Igarrotes. There are two classes of the natives: the friendly Igarrote and those who are cannibalistic in their tastes, who do not hesitate to roast, broil or fricassee a white wanderer who may chance to come their way. My therapeutic information, it is needless to say, has been obtained through the other class of Igarrote.

I learned that the springs exhibit a degree of heat from lukewarm to 200 F. There is no variation, however, during the year in the springs themselves, as to either volume or temperature. Nearly all the hot springs contain sulphur, some in small quantity, others in excess. Some of the springs contain calcium hydrate, iron, potash, etc. One which particularly interested me was of water very similar to that of the Arkansas springs, being almost free—apparently—from mineral, but hot and sparkling with carbonic acid gas; it is very palatable, and a favorite with the natives in treatment of rheumatic affections and diseases of the digestive organs.

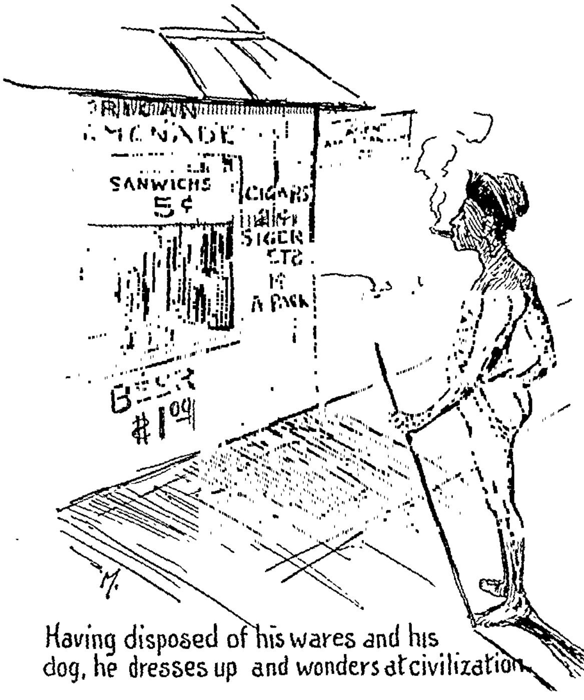
Few of this hardy athletic race are ever afflicted with disease of any kind, but when one is stricken with rheumatism, diarrhea, or a skin affection, he calls the dogs and starts for the great springs. I say "calls the dogs" pointedly, for the "dog" is the favored food of the Igarrote, and although I have not tasted of their pot of "stewed dog and rice," I am constrained to admit that when one has "hiked" in the mountains for several days successively on a meager ration of bacon and "hard tack" the odor of the native dish appears *"muy savoroso."*

The hot waters of Benguet are famed throughout the Philippine group, and all the prominent Filipinos are aware of their virtues, but the great difficulty at present is to reach them. They are distant from Manila about 250 miles north.

Syphilis is a disease unknown among the Igarrotes. Tuberculosis, heart troubles, rheumatism, and dermal diseases are those met with most frequently, but none of them is common.

It is a noticeable fact that these people are finely built specimens of brawn, erect and athletic, larger than the Filipinos, much larger than the Negrito, and very like the original North American Indian. They are peaceful and of a jovial temperament, not lazy, but usually employed either in the construction of ingenious rice dykes for irrigation, in making rattan wares, cotton goods, etc., for coast markets, in washing for gold, silver and copper, in transporting freight in their ingeniously contrived packs, or on their truck farms, growing coffee, chocolate, tobacco, sweet potatoes, Irish potatoes, beans, cabbage, lettuce, onions, etc.

When he starts for the market 50 miles distant, with his cavan of rice, one dog is sufficient.



Having disposed of his wares and his dog, he dresses up and wonders at civilization.

The reported virtue of these people accounts doubtless for the absence of venereal disease among them. The custom of mating their children by agreement at an early age exists among them; they allow the little couple to play together, to work together until they reach the age of puberty, at which time, if all parties agree, a day is set for the marriage feast. The ceremony is unique and somewhat similar to that of the Negritos—the aborigines. The bride is taken off by her father or guardian to a certain distance in the mountains, and at a given signal the groom is turned loose to hunt her up. When he spies her, she gives him the chase of his life—so to speak—and when he catches her, he leads her in triumph to the parents. The parents repeat a ceremony of gibberish, all of which is terminated by bumping together the heads of the happy contracting parties. Then comes the feast and the dance. Little or nothing, apparently is in the way among the Igarrotes to prevent rape, that is, little or nothing of clothing. The male Igarrote is in full-dress when attired in a "G" string and a "bolo." The female milks the cow and attends the ball in no more elaborate a costume than a striped native fabric recklessly thrown around her nether portions, and skillfully fastened at the waist by tucking in the ends, presenting an appearance to the American eye far more picturesque than conventional. And yet no one has ever been able to report or attribute to these people the slightest infraction of the laws of decency or modesty, and, as I say, no case of rape has ever been heard of among them, except as committed by their late rulers, the Spaniards.

Taking all other points in connection with the altitude, the delightful bracing atmosphere—temperature never above 80 F.—the delicious drinking water, the valuable mineral and hot waters, the gorgeous scenery, the abundant products of the soil, the grazing and fine cattle, the unexcelled forestry, rich minerals—gold, silver, copper and coal—and the possibility of American enterprise opening the travel way from Manila, it takes no enthusiast to believe that some day in the near future invalids and prospectors from the world abroad will be seeking the comforting and benign influences of nature's wealth in La Trinidad de Benguet.

[A railroad is already projected into the Benguet region which bids fair to become the hill sanitarium of the Philippines; indeed, there is said to be some talk of removing the civil and military headquarters to that region. If the favorable reports concerning the district are confirmed they will probably attract a very considerable immigration, and be of material aid in developing it in other respects. It is only 161 miles by the projected railway from Manila, or about the distance between New York and Albany.]

Board of Health Must Itself Act on Nuisances.—The State Board of Health of Pennsylvania is given authority, in places where there are no local boards of health, and in cases where boards of health or health officers exist, but the sanitary laws or regulations are not enforced, to order nuisances or the cause of any special disease or mortality to be abated and removed, and to enforce quarantine regulations, as it shall direct. But this, the Supreme Court of Pennsylvania holds, in the case of Commonwealth vs. Yost, does not empower it to transfer to its secretary the authority to act for it and in its stead in such matters. The court holds that, without formal action by the board, directing a nuisance, or the cause of any special disease or mortality, to be abated and removed, its secretary can neither speak nor act for it in ordering the abatement and removal of the nuisance, and the disregard of an order so given is not indictable. In other words, in the absence of any action by the board as to a particular nuisance complained of, the supreme court says that it can not agree with the contention that, because the duties of the secretary are defined by the by-laws and r [illegible] ns [illegible] board. "he speaks for, acts for and virtuall [illegible] " in or [illegible] th batement r moval [illegible] ame of

CELLULITIS SUCCEEDING CONTUSION OF LEG—EXTENSIVE SLOUGHING—SKIN GRAFTING—RECOVERY.

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This lesion occurred in a seaman, aged 24, native of Denmark, who was admitted to the U. S. Marine-Hospital, Chicago, August 22, 1899.

The patient gave a history of having had chills and fever while serving in the Spanish-American war, and presented a malarial cachexia.

The day before admission he was struck on the inner side of the left leg by a piece of lumber, producing a slight abrasion of the skin. The following night, and again the next day, he had a severe chill, followed by fever—39 C.—and intense headache. On examination, no bad effects were apparent, excepting a slight contusion at the point of injury; a continuous high temperature and accelerated pulse led to the suspicion of pus infection, which subsequently proved to be the case.

The patient soon complained of pain, and the examination showed indications of the infective process. A free incision was made in the midle of the leg, evacuating a large amount of pus; but unfortunately no examination was made with a view to determining the character of the pus germ, though from the previous history of the patient the plasmodium malariæ undoubtedly was an important etiological factor in the case. Two days later another incision was made near the tendo Achillis and a drainage-tube carried through to the first incision, establishing free drainage, and the limb was immersed in a 1 to 2000 bichlorid solution.

Despite careful antiseptic treatment, the wound during the following eight days underwent extensive sloughing, which required the removal of a large area of skin and subcutaneous tissue.

Several sinuses in the popliteal space and lower portion of the leg were laid open, and as soon as the wound appeared to be in the proper condition, skin grafting was commenced by Thiersch's method. After several attempts the grafts became firmly imbedded, and a month later, almost the entire granulating area was covered, with the exception of a small spot on the lower portion, and another in the popliteal space, which remained unhealed.

These continued to improve gradually however, and on May 30, 1900, the process of repair being complete, the patient was discharged. The accompanying photograph shows the extent of surface grafted.

The lowered condition of the constitution, which required systemic nutrition from the first, and the extent of the destructive process following a slight contusion, are the chief features of interest in the history of the patient.

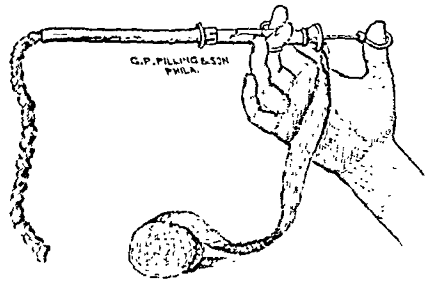
New Instruments.

The Darmack Surgical Dressing Packer.

A. GEO. BAKER, M.D.
PHILADELPHIA.

This instrument is used to pack cavities, such as gun-shot wounds, stab wounds, fistulas, sinuses, the uterus, vagina, nares, rectum, etc. It carries the gauze where it is desired and packs tightly or loosely, as is necessary.

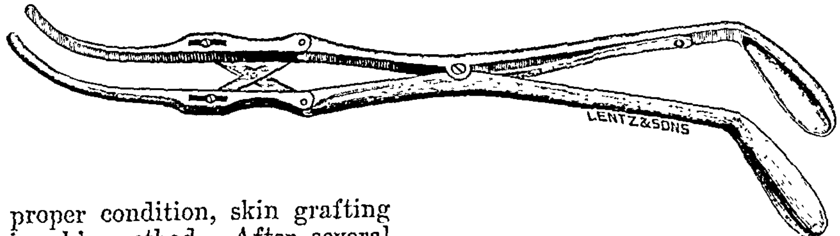
The instrument is in the shape of a tube with a piston inside. The front end of this piston or push-rod is bifurcated, pushing the gauze forward, and when the piston is drawn back two small hooks attached to the inside and toward the far end of the tube keep the gauze from coming back. There are three rings, two on the sides of the tube and one at the near end of the rod, or piston. The thumb is placed into this last, and the fore and middle fingers in the rings on the sides of the tube. There are five sizes, varying from six to twelve inches in length and from five-thirty-seconds to five-sixteenths of an inch in external diameter. The gauze to be used is in long strips, kept in jars or done up in rolls of different widths from one-half inch to six inches wide and from five to twenty yards in length. The packer was made for me by Geo. P. Pilling & Son, Philadelphia.



Modified Goodell Dilator.

CHARLES F. SPANGLER, M.D.
KANE, PA.

The accompanying illustration is a modification of the Goodell dilator. This is designed chiefly for office work, and can be conveniently manipulated through an ordinary speculum without an assistant or an anesthetic. It is neat in construction, light in weight and embodies sufficient strength. It is evenly balanced and can be poised and directed with accuracy with the fingers of one hand while the other is engaged with the tenaculum. The blades are smooth, delicately curved, permitting a ready introduction and secure a dilatation of ⅞ of an inch. The body and handles occupy 50 per cent. less space than the original instrument. The degree of dilatation is ample for correcting constrictions of the cervical canal to facilitate medication of the endometrium, or for the use of the ordinary sized curettes; and precludes the danger of unnecessary tearing of the tissues of the cervix, always incident to the use of the larger instruments.



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THE OCCURRENCE AND IMPORTANCE OF EOSINOPHILE CELLS IN THE BLOOD.

The literature contains many and contradictory statements in regard to the occurrence and the diagnostic value of the eosinophile cells. These cells are easily recognized because of the affinity of their protoplasmic granules for eosin and other acid stains; the staining methods are simple. In order to reach a definite opinion in regard to these cells, the numerous, irreconcilable hypotheses now in vogue must be overthrown so that further investigation may rest on well-established facts. Alfred Wolff[1] has made a beginning in this work, and on account of the increasing importance of hematology in clinical medicine a brief review of his results may be helpful.

Numerous differential leucocytic counts show that in normal blood the percentage of eosinophiles varies from 1.5 to 2.5; 6 to 8 per cent. is surely pathologic. Excluding leukemia, there is a large number of diseases—cutaneous, nervous, respiratory, genito-urinary, and parasitic (trichinosis)—in which an increase of eosinophiles has been claimed. In a very few of these diseases is the increase constant. Wolff details an instance of asthma in which the eosinophiles made up about 10 per cent. of the leucocytes, and this during the intervals between the attacks as well as during the latter. The sputum contained innumerable eosinophiles during the attacks. In another case of asthma the eosinophiles reached the high percentage of 15 to 39 per cent. Wolff found eosinophiles in two cases of hay-fever. This phase of eosinophilia could be studied well in the United States because of the great frequency of the disease here. In trichinosis there is such a marked eosinophilia, first shown by Brown, as to be of diagnostic value. In other forms of helminthiasis the relations of the eosinophiles have not been studied. Gonorrheal pus is often rich in eosinophiles. Wolff found the pus of acute and chronic gonorrhea to contain a varying number of eosinophile cells, the number of which in the blood may be increased at the same time, but this is not constant and without diagnostic significance.

The presence of eosinophile cells in the blood of so many animals, and in about the same proportion as in men, points to their having a distinct function in physiologic as well as pathologic conditions, but the nature of their functions has not been established. The views of the authors on this point vary so greatly that it is hardly worth the while to catalogue the various theories advanced. Except in bronchial asthma, Wolff concludes that eosinophilia has but little significance, which is contrary to the views of Neusser and others. We would mention trichinosis as a second disease in which eosinophilia is of distinct diagnostic value.

As to the origin of these cells, the view generally accepted is Ehrlich's, who traces them to the bone-marrow.

In his extensive "Studies in Leukemia,"[2] Taylor discusses fully the questions of the nature, origin, and evolution of the leucocytes, including the eosinophiles. The theories of hemogenesis are many, and often more or less speculative, so that in reality but few merit serious consideration. According to Taylor's summary, there are in the circulating human blood at least six distinct types of white cells: the large lymphocyte, and its direct descendant, the small lymphocyte, derived from the lymph-glands and nodes; the non-granular, large mononuclear leucocyte, which probably comes from the bone-marrow; the polymorphonuclear neutrophile leucocyte, derived from the myelocyte; the polymorphonuclear eosinophile, also produced in the marrow; and the polymorphonuclear basophile, again of marrow origin. The best evidence at hand indicates that these types are distinct and not interchangeable. The attractive and on the whole simple schematic division of Uskow and others, who teach that all leucocytes pass through the same developmental cycles and may be grouped as young, mature, and old cells, is not sufficient by long odds to explain the morphologic differences of the nuclei, the varying amount and kind of protoplasm and its characteristic granulations, the differences in the motility, and in the behavior under normal and abnormal conditions of the various leucocytes.

THE ETIOLOGY AND PREVENTION OF SCURVY.

Although it is generally recognized that scurvy is due to absence from the food of certain substances, the exact nature of these has not been determined, and it must be admitted that empiricism has here advanced beyond science in the prophylaxis. In adults the disorder usually develops when the diet is deficient in fresh vegetables and fruits, while it has been observed in infants nourished with artificial food or with sterilized milk. In either instance the affection readily yields to the employment of appropriate corrective measures, namely, the administration of a properly arranged dietary or of lime-juice, orange-juice, or beef-juice. In view of these facts, Corlette[1] suggests that the defaulting agent is citric acid, which is a normal constituent of fresh milk in the form of the calcium-salt, together with a small amount of potassium and magnesium citrate. Calcium citrate appears in both an amorphous nd a crystalline form, the former being convertible by oiling into the latter. The salt is more soluble in cold an in boiling water, and the amorphous variety is ore soluble than the crystalline. There is, further, ood reason for believing that the organic acid of milk present in the form of calcium citrate, almost to the oint of saturation. Now, as a result of the boiling racticed in process of sterilization, the amorphous is onverted into the crystalline calcium citrate, and this precipitated as the process is continued. In this way child nourished with sterilized milk may fail to re-eive an adequate supply of citric acid, and scurvy will esult if it be due to such a deficiency. Scurvy, it has een observed, does not occur so readily, if at all, in hildren that receive merely Pasteurized milk, and this act may be due to the circumstance that the milk is ot subjected for so long a time to so high a temperature nd that it is subsequently cooled.

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[1] Ziegler's Beitr., 1900, xxviii, 150-178.

[2] Contributions from "the William Pepper Laboratory of Clinical Medicine." 1900; 148-328.

[1] Brit. Med. Jour., Sept. 1, 1900, p. 573.

The practical deduction from the foregoing consid-rations is that for the prevention of scurvy in infants sufficient amount of fresh milk should be given. If, or special reasons, this can not be done, properly Pas-eurized milk may be employed. If it be inexpedient r impossible to give anything but boiled milk, lime-uice or a citrate should be administered contempora-eously, using one ounce of the former or fifty or sixty rains of the latter as the equivalent of the amount ontained in three pints of fresh milk. Besides, any vater, used as a diluent, should be added to the milk, ot after, but before, boiling, in order to render the olution of citrate less, rather than more concentrated, nd thus less likely to be precipitated by boiling, which hould not be continued longer than necessary. The nilk should be permitted to cool in the vessel in which t has been boiled, and then be well stirred. The possibility is further pointed out that the crystals precipitated by boiling might be held better in suspension by the addition, before boiling, of a substance of gummy consistence, like gelatin, isinglass, dextrin or gum arabic. Also the solvent power of milk with regard to citrates might be increased by the addition, before boiling, of alkaline phosphates in the proportion of ten or fifteen grains to each pint.

In this connection it may not be uninteresting to refer to the observations of Wright[2], who reasons that scurvy is the expression of an acid intoxication, resulting from the use of food-stuffs containing an excess of mineral acids over bases, and the exclusion of those of opposite constituency. The local means of prophylaxis and treatment would, therefore, consist in the administration of salts of oxidizable organic acids, for the purpose of retaining or restoring the normal alkalinity of the blood. Accordingly, in a series of cases of scurvy in which the alkalinity of the blood was found diminished, such drugs as potassium acetate, potassium citrate, sodium acetate, sodium tartrate, sodium lactate, and sodium bicarbonate, were administered, with striking amelioration in the symptoms.

Recently Jackson and Harley[3] espoused the view that scurvy is not due to the absence from the diet of fresh vegetables or lime-juice, but rather to the eating of tainted food; but this explanation is scarcely susceptible of universal application. In opposing this view, Home[4] suggests that the process is an infectious rather than a toxic one, and that the utility of lime-juice and fresh vegetables resides in their antiseptic qualities. It will thus be seen that while we have fortunately been provided with the means of prevention and cure, we are as yet without full knowledge of the factors on which scurvy depends.

MIGRAINE WITH RECURRENT OCULOMOTOR PALSY.

The group of diseases comprehended in the designation of neuroses must be conceived to be dependent on changes in nervous structure as yet undemonstrable by present methods of investigation. There is a growing belief that aberration in function can not take place without alteration in structure—in fact, normal function must be referred to molecular changes in the cellular elements. In either instance the result is attributable to the reaction of sensitive structures to stimuli of varying degree and character. The problems opened by these and allied conceptions are almost illimitable, and we must look for their solution to the new physiological chemistry. One of the most interesting of the neuroses is migraine, which is by some considered the sensory analogue of epilepsy. Both diseases are paroxysmal or explosive, are as a rule unassociated with a gross lesion, may be preceded by an aura, be attended with hallucinations or perversions of the sensorium, or be followed by motor impairment, and are sometimes convertible the one into the other.

A number of years ago Moebius described as periodic oculomotor paralysis, a disorder attended with loss of power in the muscles supplied by the third nerve of one side, recurring at somewhat regular intervals, and subsiding spontaneously in the course of days, weeks or months. The palsy was almost always associated with headache on the affected side, as well as nausea and vomiting. Occasionally sensibility was impaired in the distribution of the ophthalmic division of the fifth nerve on the corresponding side. In some cases the paralysis was purely periodic; in others it was persistent, though with periodic exacerbations. The pathology of the affection is obscure. In some instances organic disease has been found involving the third nerve at the base of the brain; in others it must be attributed to vasomotor influences, sometimes spastic, sometimes paretic; while in still others it may be dependent upon degenerative lesions in the medulla oblongata. The disorder is progressive in course, although it may in individual instances be checked or undergo complete involution. No successful treatment is known. The disease has been designated ophthalmoplegic migraine by Charcot, but Moebius contends that it is not a true, but merely a symptomatic, migraine, probably dependent on irritation of the descending root of the fifth nerve by a hypothetic lesion in the neighborhood of the oculomotor nucleus. A case in which true migraine and recurrent oculomotor paralysis were associated has been reported by Seiffer[1] from the clinic of Prof. Jolly, of Berlin. The patient was a man, 49 years old, who presented himself on account of severe headache. His mother had been insane and his father addicted to the moderate use of alcohol. One of his children was dead of spasms and three suffered from periodically recurring headache. The patient denied a history of syphilis and of alcoholism. From the age of 8 he was at intervals of four or five weeks seized with left temporal headache lasting for two or three days, and preceded on the day before by a feeling of torpor and increased appetite. The attack was attended, besides, with anorexia, constipation, nausea, vertigo, chilliness, lachrymation, muscæ, and increased irritability. Some ten years before coming under observation ptosis of the left upper eyelid was noticed during the attack, disappearing subsequently, but increasing progressively. Two years later diplopia became an associated phenomenon. Both conditions now grew more prominent and persistent and the eyeball became deflected outward. When examined, the patient exhibited complete paralysis of all of the external and *internal ocular muscles supplied by the third nerve on* the left side, the pupils being dilated, insensitive to light, and immobile in accommodation, and the globe fixed in permanent divergence. The eye-grounds were normal and there was no other evidence of disease of the nervous system or of other viscera.

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[2] Lancet, Aug. 25. 1900. p. 565.

[3] Ibid., April 28, 1900, p. 1184.

[4] Ibid., Aug. 4. 1900. p. 321.

PAIN IN THE LOWER ANIMALS.

The question of pain sensations in the lower animals is manifestly difficult to study. There are those who assume that movements or reactions to external stimuli in the lower animals are the outcome of psychical processes thereby induced. They at once assume the existence of the thing to be proved, namely, the existence of psychical processes in the organisms studied. According to this view, such forms as larval crustaceans, flies, the earthworm, the moth, etc., regulate their movements by consciousness. The moth, for instance, flies into the flame because of its curiosity to see more of the strange object.

Others seek to analyze the reactions of animals on mechanical grounds. Loeb shows that the orientation of lower animals with respect to light corresponds to the same phenomena in plants toward the same source of stimulus. Hence, plants must either be "conscious" or orientation of animals is explainable on mechanical grounds as in the case of plants.

Many of the reactions in lower animals against injuries, painful in man, easily suggest that the animals actually are in pain. Touching an earthworm with a needle throws it into violent squirming, but does that squirming mean pain? When an isolated frog's muscle is placed in a strong salt solution, rapid contractions follow; surely these are not due to pain sensations. Norman's[1] experiments with the earthworm show that after cutting it in two the anterior part crawls away, while the posterior part begins to squirm. But the same thing happens on halving of the two first pieces and the pieces resulting from further halving—the anterior half crawls away, the posterior squirms. If these reactions indicate pain, then pain sensation must be attributed to pieces of the animal. The fact that the front half of any piece behaves differently from the posterior half, shows that the form of reaction in any part of an earthworm *is different on the direction of the impulse.* Forward impulses initiate orderly movements; backward impulses squirming motions. Norman shows further *that these reactions are not peculiar to this form of* injury, but result also from other local stimuli, and further that in such animals as the starfish, the leech, the crab and the honey-bee, there are no reactions observed after injury, a fact that certainly would go against the theory of pain-sensation, although perhaps not directly proving the absence of pain.

AN UNFORTUNATE DECISION.

The Appellate Court of Chicago has just given out a decision that the State Board of Health has no authority to revoke the certificate of a physician received before July 1, 1899, when the present law went into effect. We do not believe that it was the intention of the law-makers that this interpretation of the law should rule, but strict technical constructions often defeat their purpose in other matters as well as in this. *It certainly emasculates the existing law in a very* important respect, and if this decision can be taken as definitely settling the matter, the sooner it is amended by additional legislation the better, if indeed that is possible. If, however, there is a chance of a broader view in a higher court let it be taken up at the earliest practicable moment. It is a favorite dogma with lawyers that the law is the perfection of human wisdom, but from a medical and common-sense point of view we too often see judicial decisions make it the reverse.

RESTRICTION OF VICE AMONG SOLDIERS.

A contemporary in speaking of certain sanitary measures adopted in Manila, more particularly the *regulation of vice, editorially deprecates what it calls* the "attempted Puritan interference," and says "soldiers should be allowed all the liberty that is compatible with the performance of their duties, and they should be shielded as thoroughly as possible from the consequences of immorality." This does [illegible] sound [illegible] ll, to say the least; whatever grounds [illegible] ier justify such regulations, it is poor policy and worse ethics to excuse them on the ground that we should not restrict the liberties of the soldier in his tendencies to immorality, which certainly are not less than those of other men, and need in some regards even more restriction. If such regulations are employed it is better to consider them as necessitated by existing evils than as justifiable on the ground of normal personal rights. If such regulations have the results of lowering the moral standard, they do harm, for conduct in such matters will never surpass the ideal.

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[1] Berliner klinische Wochenschrift, July 23, 1900, p. 657.

[1] *Do the Reactions of Lower Animals* [illegible] Sensations? Biological Lectures from the M[illegible] Woods Holl, Mass., 1898, 235-241.

DISORDERS OF FAMILIAL ORIGIN.

Congenital diseases may, without being hereditary, have a familiar distribution, occurring in several members of the same generation or in collateral branches. This may be presumed to be due to some latent defect in the progenitors or to some common error in development. Diseases of the nervous system especially occur in familial distribution, as for instance, the psychoses in general, as well as the neuroses, and diseases of the brain, the medulla and the spinal cord. It has been observed that nervous diseases which may be transmitted by heredity often appear in descendants of individuals subjected to chronic intoxication. The organs of special sense and the internal viscera may be affected in a similar manner. The lesions may even be teratologic in character. Thus, twins not rarely exhibit similar deformities. An instance of familial disease of unusual character has recently been reported by Féré:[1] two neurotic women, cousins, 34 and 38 years old, respectively, presented symmetric lipomata in each plantar arch, in the one associated with tarsalgia, and in the other with herpes zoster. Inquiry failed to disclose any hereditary history of a similar lesion.

DEGREE-CONFERRING COLLEGES IN ILLINOIS.

Two years ago an attempt was made to pass a law through the legislature of Illinois limiting the degree-giving power to educational institutions possessed of a certain minimum endowment. More or less similar laws are in force in some other states and the result has been good. When the measure was before the Illinois legislature, however, there was an outcry from the secular press, that it was illiberal, aristocratic, and un-American, and it naturally failed to pass. Since then, however, the country has had an object-lesson of the need of just such a law, a need which is the greater in Illinois, since in that state charters are granted on application and any fraud can incorporate without scrutiny into its character. The exposure of the Armstrong frauds, of which there appears to be an unlimited succession, has taught the public something since 1898, and it may be that a similar measure introduced in the coming session would have better success. Such a law could not hurt existing small colleges, for no state can pass *ex-post-facto* laws, but it would prevent the outrageous frauds that are possible and legal at the present time and which have discredited Illinois degrees throughout the world. The really fraudulent incorporation can be suppressed by law, but it is useless to attempt it when a new one can immediately rise to take its place. With such an act in force, however, even the Armstrong hydra can be exterminated. It would be well if the medical profession in Illinois, and in this they would be backed by every one who possesses a respectable Illinois degree, could begin now to exert their influence for the enaction of a law similar to the Rogers act proposed two years ago. The question is out of politics and can be only actively opposed by rank demagoguery and quackery; the state has had an object-lesson of its needs, and the prospects are therefore better for its success.

MEDICAL DEFENSE IN DETROIT.

The proposed organization of physicians in Detroit, already editorially noticed in The Journal, has been perfected, we understand, without the more objectionable features heretofore referred to—the boycott and other trade-union practices. With these eliminated, there is no reason why such an organization should not be a success and of the greatest service to the profession. What medical men, in any locality, need is organization on high professional and ethical lines. This will prevent them from being exploited for the personal advantage of deadbeats in general, or of organized benefit-clubs or fraternal societies. The general public will agree with the *Detroit Free Press* when it says, "every doctor is entitled to remuneration for his services" and that he has "the further right to protect himself and the community against fraud in whatever form it may present itself." Yet, a very large portion of every extensive community has practically acted as if such rights did not exist. Matters may have been worse in this respect in Detroit than in some other localities; we do not know as to this, but they are bad enough everywhere. It may be a difficult task to educate the public out of the idea that physicians are, in a sense, public slaves and that any association for their rights is a trust, but business methods and organization will do it if anything can. There are possibly still some features of the Detroit scheme that may not be perfectly acceptable to all, but we certainly have strong hopes of good to follow its adoption and time will tell what is best to retain and what to reject. There is still another aspect than the purely business one, and one to which The Journal has often referred in the past, viz., the influence of a better medical organization in the management of public affairs as far as they touch upon the best interests of the profession. There are no men whose influence ought to go further than that of physicians whenever it is exercised for their rights, and yet it has hardly been felt heretofore in public legislation. With proper organization this will be changed, and both individually and collectively the members of the profesion will be better able to make themselves felt when matters in which their special knowledge comes into play are before the public or legislative bodies.

ADENOMA MALIGNUM.

Gynecologic literature especially contains numerous references to malignant adenoma. This might lead to the supposition that the tumor was especially common in the uterus. This is, however, far from being the case, as there is probably no glandular organ, except the kidney, in which this tumor has not been found. In the lower part of the large intestine it is quite frequent; and it occurs in the biliary ducts, the gallbladder and the liver, as well as elsewhere. The reason that it has received so much attention from the side of gynecology is probably the difficulty of its differential diagnosis from benign tumors and hyperplasias. Pathologists are agreed that by malignant adenoma is understood a tumor of glandular structure that extends into the adjacent tissues and gives rise to metastases, also often of glandular type. As pointed out by Hansemann,[1] its clinical course is that of carcinoma. Recidivations occur, ulceration takes place, its growth is unlimited, and it induces an increasing cachexia. Occasionally it happens that the metastases and recidivations present a more or less well-marked transition in their structure to cylindric and other forms of carcinoma. Hansemann describes a clear instance illustrating this course of events. It must be accepted as settled that the malignant adenoma at any time may pass into undoubted carcinoma—malignant adenoma differs from carcinoma not in kind but in degree. There is, consequently, no real reason for establishing malignant adenoma as a distinct type of tumor, as advocated recently by Selberg. Hansemann favors retaining the terms malignant or destructive adenoma, because they signify a tumor in which the glandular character is pronounced and because they carry with them the idea of smaller degrees of malignity than the term carcinoma. He, himself, however, acknowledges that there are malignant adenomas that give rise to early metastases of a typical carcinomatous structure, at the same time as there are typical carcinomas of slow growth, late metastases, and absence of return after removal. It would seem that under these circumstances a distinction was being made without any real difference. In the interests of simplicity of classification and of clearness of statement in teaching, it is indicated that a tumor which is a subordinate variety of carcinoma, structurally and clinically, be called carcinoma—adenocarcinoma. After all, there is no term that better expresses our conceptions, clinical, therapeutic and prognostic, in regard to a malignant epithelial or glandular tumor than carcinoma. Hence, carcinoma should be used in order to avoid all possible risk of misunderstanding. This is done by Cullen, in his recent work on "Cancer of the Uterus."

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[1] Revue de Chirurgie, 1900, No. 8, p. 186.

A PROBLEM IN ELIMINATION.

Certain people are afflicted with what we, according to individual fancy, term lithemia, latent gout, uric-acid diathesis, uricacidemia, etc. These unfortunates complain of a number of vague symptoms, frequently of a neurasthenic character, such as muscular pains and neuralgias, disturbed sleep, susceptibility to colds and to catarrhs of the mucous membranes, headaches, and other similar symptoms. These people feel best in hot weather when perspiring freely, which naturally suggests the probability that the consequent increased elimination of waste products through the skin removes from the blood some toxic substance that is the cause of the trouble. Especially is this corroborated by the frequent observation that such people feel much worse when a cool day suddenly follows several hot ones. While *a priori* arguments are usually worse than useless, at least when applied to natural phenomena, some speculation is justified in the case of a diseased condition whose source in the intricate metabolism of the body is beyond our present reach. If increased elimination alone accounted for the amelioration of the lithemic symptoms in hot weather, it would be natural to expect that the compensatory increase in the quantity of urine on the occurrence of a cool day would automatically remove the deleterious products. Therefore we may tentatively conclude that, at least in these lithemic cases, there are certain waste products in the circulation which are readily removed by the activity of the sweat-glands, and which are not so readily eliminated even by increased activity of the kidneys. However, we must not forget the possibility that in hot days the body may find it easier to completely oxidize, rather than to eliminate, certain substances that may cause the mischief. Be that as it may, we know that the renal excreting cells possess normally a marked selective action, enabling them to remove from the blood-stream certain substances, while they compel the retention of others. Thus, for instance, all the sodium chlorid above a certain fixed ratio is promptly eliminated through the urine, while serum-albumin, which constantly passes through the cells, is not permitted to escape so long as the cells retain their full physiologic integrity. From these facts may we not suggest the possibility that in the subjects of lithemia and allied conditions there are formed certain substances that are moderate nerve and muscle poisons, for which the renal excreting cells have no selective action? May not this explain why in certain of these cases Turkish baths are vastly more efficient than diuretics? Of course this involves the assumption that the sweat-glands are more efficient in the elimination of these particular substances than are the kidneys. The practical deduction from this theorizing is that we should endeavor to aid these cases by exciting the excretive activity of the skin rather than by wasting efforts in administering diuretics. Hot baths and general massage should therefore be tried early, with the reasonable hope of relieving the autointoxication, which there is good reason to believe is the underlying cause of the unpleasant symptoms.

THE OPERATIVE TREATMENT OF PULMONARY TUBERCULOSIS.

Although we possess no therapeutic agent capable of exerting a specific curative effect on the tuberculous process, wherever situated—perhaps excepting tuberculin, and its influence for good can not always be depended on—there is not wanting evidence that recovery takes place, at least clinically, in a large proportion of cases. Such a result is brought about mainly through improvement in the [illegible] nu[illegible] state, principally by means of diet, ai[illegible] s. Inh[illegible] of compressed air [illegible] fied also been employe[illegible] ial [illegible] on the lungs. A [illegible] wa[illegible] looking to the t[illegible] means of an artificial pneumothorax with nitrogen gas, for the purpose of placing the affected tissues at rest. Following analogy, Palmer[1] recommends in the early treatment of tuberculosis of the lungs the same remedial measure that is employed in the treatment of the disease when situated in any other accessible organ, and which alone, he contends, offers a really good prospect of success, namely, surgical extirpation. In the absence of personal experience, he is compelled to base his argument on anatomic considerations, on accidents affecting the lung tissue, and on cases in which operation on the lungs has been necessary for other and graver lesions. The most important danger in connection with operations involving the lungs and pleura consists in collapse of the lung; but pleural adhesions are often present, and these will suffice to prevent collapse. Pneumothorax, however, is by no means necessarily fatal. Further, it may be averted by the formation of inflammatory adhesions, spontaneous or induced artificially; or the layers of pleura may be united by sutures; or the lungs may be kept distended by artificial inflation. A second danger to be considered is surgical emphysema, but this would not be likely to occur, as the wound-opening would be sufficiently large to permit of free movement of the air. A third danger is hemorrhage; but the superficial vessels of the lungs are not large. To avoid this complication, the affected tissues, if the lesion be circumscribed, might first be included in a ligature and then excised, or an electric écraseur might be employed. Under other conditions ligatures could be applied to the larger vessels, including the bronchial tube and its accompanying artery and vein; or the incision with the knife could be followed by the application of the electric cautery. While, theoretically, surgical treatment of pulmonary tuberculosis would seem to be an ideal method, it is not likely ever to become popular or general, as, apart from the risks and dangers of operations on the lung, it is difficult to recognize the disease when it is so circumscribed and limited as to be amenable to this form of treatment; and, besides, it will be almost impossible to exclude the presence of the disease in other portions of the same lung, in the other lung, or in other portions of the body. For certain complications of pulmonary tuberculosis, however, such as abscess or gangrene, surgery no doubt has a wider field of application.

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[1] Virchow's Archiv, 1900. 161, 458–461.

Medical News.

CALIFORNIA.

The Redding Hospital building will be completed and ready for patients in a few days.

Scarlet fever has appeared in Santa Clara. Five cases have been reported and quarantined.

A detachment of sixteen men of the army left San Francisco, on the transport *Hancock*, October 1, to disinter and transport to this country the bodies of the men of the army and navy who have died in the Orient during the last two years.

The grand jury has been requested by President J. M. Williamson, of the San Francisco Board of Health to investigate the charges recently made that employees of the Health Department had systematically levied blackmail on the inhabitants of Chinatown on pain of persistent inspection.

Segregation of tuberculous patients in a new pavilion containing eighty beds, to be erected in the north end of the present City and County Hospital site, San Francisco, was recommended by Dr. Gustave E. Sussdorf, but could not be acted on because of the lack of the amount, $7000, necessary for its construction.

COLORADO.

Dr. Herbert A. Black, formerly of Augusta, Me., but now in practice in Pueblo, was married to Miss Bertha S. Lawrence, at Augusta, September 26.

The Pullman Company threatens not to build the contemplated shops at Denver, which will employ about 400 men, if the city council persists in passing an ordinance requiring the fumigation of all sleeping-cars upon their arrival at and departure from Denver.

An alliance, to aid the health department of Denver, is being engineered by Dr. Frank Dulin, assistant health commissioner. It is proposed to include in this combination all physicians in the city, and they will be expected to work together for the common good.

DISTRICT OF COLUMBIA.

Dr. Lincoln Johnson, Washington, has gone to the United States of Colombia, to engage in the practice of medicine.

A competitive examination was held September 24, at the Emergency Hospital, as a result of which Dr. W. R. Moulden becomes resident physician; Dr. Clifford Sperow, Martinsburg, W. Va., senior assistant, and Dr. Robert B. Beale, junior assistant.

The health officer of the District, Dr. William C. Woodward, recommends in his report, the construction of a new isolation hospital, an increase in salaries of certain officials of the department, and the control of the milk-supply of the District by proper ordinance.

FLORIDA.

Dr. Isaac Castellanos has moved with his family to Kissimmee from Havana, Cuba.

Dr. Wade H. Jones, city physician of Tampa, is reported to be ill and in a serious condition.

Dr. Urban S. Bird, Tampa, was married to Miss Laura McClellan, Warsaw, Ind., September 20.

St. Anthony's Hospital has been incorporated at Pensacola by Dr. Warren E. Anderson and others, with a capital stock of $25,000.

The Emergency Hospital, Jacksonville, which is too small and unequipped for its needs, is soon to be moved into the building, in Brooklyn, formerly occupied by the Frankie Schumaker Hospital.

Jacksonville has passed an ordinance prohibiting spitting or throwing "hulls, peelings or other litter" on sidewalks, or floors of public places on pain of the imposition of a fine of not less than $1 nor more than $5.

ILLINOIS.

Dr. Victor M. Daly, Pontiac, returned from his trip to Europe, October 1.

Dr. J. Frank Wilson and Miss Della Vandeventer, both of Versailles, were married September 30.

Rockford Hospital has received a bequest of $1000 from the estate of the late Elizabeth Hulse Moffatt.

The Moline Hospital, during the fiscal year ended June 1, admitted 135 medical, including 69 of typhoid fever, and 113 surgical cases.

Springfield Hospital reports that during its first year 122 patients were admitted, in the second year, 201, and in the third year, 341. In all, 65 have died. The hospital has a capacity of 50 beds.

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[1] The Lancet, June 23, 1900, p. 1792.

Dr. William A. Stoker, superintendent of the Illinois Southern Hospital for the Insane at Anna, has resigned, and will become superintendent of the Southern Indiana Hospital for the Insane at Evansville.

The Cottage Hospital, Peoria, which was, if not the pioneer, one of the first hospitals of its kind in the state, is to have a new main building which will be built and equipped in accordance with modern ideas. The capacity of the group of buildings composing the hospital will be about 150 beds.

Chicago.

The Chicago Eye, Ear, Nose and Throat College has increased its capital stock from $10,000 to $25,000, and its directors from three to five.

The Medical Department of the University of Illinois, College of Physicians and Surgeons, held its opening exercises October 1. Prof. Robert H. Babcock delivered the opening address.

The Woman's Medical School of the Northwestern University opened for its thirty-first annual session, October 1. Addresses were made by Profs. William E. Schroeder and Leonard L. Skelton.

Dr. Reinard Herman, who had recently come from Germany and settled in Milwaukee, disheartened because of deferred success in practice, committed suicide in this city, October 3, by taking hydrocyanic acid.

Rush Medical College held its opening exercises in University Hall, Fine Arts Building, October 5. Prof. Llewellys F. Barker, delivered the opening address on "The Study of Anatomy." Eleven graduates received degrees.

HEALTH DEPARTMENT.

Only 398 deaths from all causes were reported to the Bureau of Vital Statistics last week as against 458 during the previous week and 455 during the corresponding week of 1899. The annual death-rate, based on this total, is 12.2 per thousand of the United States Census figures of population—the lowest October mortality-rate on record. The increase of diphtheria, scarlet fever and other contagious diseases of childhood which as a rule, follows the resumption of school attendance, is much less marked this year than usual. The Health Department attributes this chiefly to the system of medical inspection of the schools maintained by the Board of Education. Deaths from acute intestinal diseases were 54, consumption 39, pneumonia 30, heart diseases 29, nervous diseases 23, Bright's disease 21, violence—other than suicide—18, suicide 13, diphtheria 15, cancer 17, bronchitis 10, convulsions 13, apoplexy 10, typhoid fever 7, and scarlet fever 3. Births reported were 544.

INDIANA.

Dr. Charles H. Waxham, North Liberty, has given up his practice there and has gone to Denver, Col.

Seven cases of smallpox are reported in Liberty Township, Fulton County, by county physician Charles E. Gould, Rochester.

The Doctors of Lafayette are sensitive about riding in a patrol wagon and have petitioned the city council to procure a real ambulance.

The wedding of Dr. David F. Trenary, resident physician at the Asylum for the Incurable Insane at Julietta, and Miss Esther Wilcox, Indianapolis, which occurred July 11, has just been announced.

Dr. D. J. Swarts, wife and son, also physicians, of Auburn, have just returned from a lengthy sojourn among the leading medical centers of Great Britain and continent. Dr. D. J. Swarts is 70 years of age, and "still hale and hearty."

A hospital for consumptives is a crying need of Indianapolis, and Mrs. Lewis Wallace, Jr., read a paper on "The Care of Consumptives" before the Flower Mission, which has the project in charge, pleading for the speedy attainment of its desire.

The State Board of Health has prepared an address to the people of the state, warning them against smallpox, which it fears will be epidemic this winter, and containing illustrations of smallpox patients, and instructions as to vaccination, disinfection and lay recognition of the disease.

KANSAS.

Dr. Josiah P. Lewis and daughter, Topeka, received painful injuries in a runaway accident.

Dr. William H. Righter, Topeka, was charged, October 2, with having failed to report a case of smallpox.

The first smallpox case since the present crusade in Topeka commenced was sent to the isolation hospital, October 3.

Plans are now in the hands of local contractors for the erection of a large private hospital in Ellsworth to be owned and operated by Drs. Hissem and O'Donnell.

The new hospital which is to be erected in Pittsburg, at a cost of $25,000 will be under the direction of the Sisters of St. Joseph. Mr. C. J. Devlin, of Topeka, has donated the land and will defray the expense of the construction of the building.

A smallpox epidemic is to be averted in Topeka if the local board of health has its way. It has prepared an ordinance providing for compulsory vaccination and a penalty for disobedience of the order. The city physician has also sent out a circular calling attention to the ordinance regarding reports of contagious diseases and quarantine therefor.

KENTUCKY.

Dr. John P. Gilmer, Louisville, was married, October 10, to Miss Margaret Goodloe, of the same city.

Dr. J. I. Greenwell, a graduate of the Hospital School of Medicine, Louisville, has located in New Haven.

The reorganization of Speers Hospital, Dayton, is well under way. Among the new trustees are Drs. Charles B. Schoolfield and W. Dallas Richards, of Dayton. The number of trustees has been increased to five, and men have been selected who will work in harmony with the medical staff.

LOUISIANA.

The local board of health at Shreveport has been organized by Dr. James C. Egan, health officer, with Dr. Henry C. Coty as chairman.

The reproach against New Orleans in point of health is being taken away. For the eleven weeks ended September 15 the average death-rate was only 16.08 per annum per thousand for the white population.

The fruit companies of New Orleans have protested against the delay entailed by the State Board of Health, which requires that all ships on leaving Port Limon and Bocas del Toro be inspected and disinfected, and detained and again inspected before being allowed to come up to the city. The board very properly refused to consider the matter or modify its rules.

MAINE.

The school board of Rockland has been asked by the local board of health to refuse to accept the vaccination certificates of the Boston physician who issued 157 without, it is alleged, having made personal examination of the children. The school board very properly replied that it was not within its province to question the validity of certificates signed by a regular practitioner and suggested that the board of health assume the responsibility.

The Portland Board of Health's report shows that for the year ended Feb. 28, 1900, there were 887 deaths in the city. Zymotic diseases caused 11.85 per cent. of the deaths; constitutional diseases, 24.24 per cent.; local diseases, 50.51 per cent.; developmental diseases, 8.45 per cent., and violence, 4.74 per cent. Of contagious diseases, 191 cases of scarlet fever, 130 of diphtheria and 83 of typhoid fever were reported. The board urged upon the city government the necessity of municipal milk inspection, and of a new isolation hospita

MARYLAND.

Baltimore.

Dr. G. Milton Linthicum has returned from Europe.

Dr. Gordon Wilson has been appointed fellow in pathology in the Johns Hopkins University.

Dr. Charles E. Simon has returned from Nova Scotia, where he has a summer sanatorium.

Dr. H. B. Jacobs, the American secretary of the International Medical Congress, has returned from Paris.

Prof. Claribel Cone delivered the opening address at the Woman's Medical College on "Woman and Her Work."

Mrs. Florence Levy Eversman has given an additional $500 to the Hebrew Hospital, as a memorial to her parents.

Dr. John Arthur Luetscher, late interne at the Johns Hopkins Hospital, has been appointed a resident physician at the Boston City Hospital.

At the Woman's Medical College Dr. Melker Elkstromer has been elected professor of chemistry; Dr. Henry Lee Smith, associate professor of diseases of children, and Dr. Louise Erich, adjunct professor of hygiene.

Health Commissioner Bosley is determined to enforce the law prohibiting the exposure of corpses of those who died from infectious and contagious diseases, and restricting the attendance at their funerals. He regards this as a most prolific source of the spread of such diseases.

For the week ending October 6 the deaths were 192, births, 304. Of the latter 158 were males and 146 females. There were 30 deaths from tuberculosis, 18 from cholera infantum, 4 from typhoid fever, 9 from diphtheria and croup, 6 each from cancer and pneumonia, 12 from Bright's disease. New cases of infectious diseases were reported as follows: Diphtheria, 51; scarlet fever, 8; typhoid fever, 38; whooping cough, 1.

The health commissioner has issued a circular asking the co-operation of physicians in fighting diphtheria and scarlatina this fall. He urges physicians to insist that all children in families where there is diphtheria be immunized by antitoxin, when they can not be isolated. The department offers to supply the antitoxin to those too poor to purchase it. He considers that a scarlet-fever patient should be kept isolated for at least three weeks after the temperature has returned to normal. In case of diphtheria the room will be disinfected by the officials of the department, after the throats of all members of the family have been proved to be free from germs. In scarlatina, the premises will be disinfected after all desquamation has ceased, the three-weeks' limit being observed as far as possible.

MASSACHUSETTS.

The Cullis Consumptive's Home, Boston, celebrated its thirty-sixth anniversary on September 27.

More than $1200 has been raised for the Springfield Hospital by the efforts of the City Hospital Aid Association.

Licenses to practice were given to 26 out of the 33 candidates who took the examination of the State Board of Registration in Medicine at Boston on September 11 and 12.

Lynn Hospital reports receipts for the past year of $21,175 and a balance of $4036.47, which has been added to the hospital fund. The average cost of maintenance of patients was $7.69 per week.

Dr. Archibald J. Ranney, who has been connected with the State Hospital at Tewkesbury for seven years, has been appointed superintendent of the Boston Almshouse and Hospital, on Long Island.

Harvard Medical School is to have a new home. About 27 acres of land has been purchased in Brookline by a syndicate, who are to hold it in trust for the school. Early in the spring work will be begun on the physiological laboratory, for which $50,000 has been voted from the Henry L. Pierce bequest. The idea of President Eliot is to have all the departments of applied biology united in one grand school.

MICHIGAN.

Dr. F. Josephus Groner, Grand Rapids, has been appointed consulting physician at the Soldiers' Home.

Teachers throughout the state are to be furnished the "Data and Statements" of the State Board of Health, to assist them in instructing their pupils in hygiene and sanitation.

It is reported that, despite the law compelling physicians to register in the county clerk's office on penalty of fine, 55 in Macomb County alone have failed to comply with the law.

The State Board of Health has issued its 10th edition of "Instructions to Consumptives and Their Friends." It is an instructive leaflet, publishing in concise form a store of advice.

"Irregulars," numbering 114, were practicing medicine in Berrien County a year ago. Now, thanks to the new law and its enforcement by the State Board of Registration in Medicine only 15 remain, and their local professional life is likely to be very brief.

Including reports by regular observers and others typhoid fever was reported present in the state in 262 places; consumptives at 177 places; scarlet fever at 31 places; whooping cough at 24 places; cerebrospinal meningitis at 12 places, and smallpox at 4 places.

The controversy between the State Board of Health and certain Detroit physicians regarding reporting cases of tuberculosis has been passed on by the Supreme Court, which holds that there is no danger line that the courts can take judicial notice of, and that the question is one for a jury to decide. A new trial was therefore ordered.

For September, 1900, compared with the average for September in the 10 years, 1890-99, scarlet fever and typhoid fever were more prevalent; cholera infantum, measles and cholera morbus much more prevalent; diphtheria, consumption and pneumonia less prevalent, and whooping cough and remittent fever much less than usually prevalent.

Two black-lists are to be published by the Detroit Physicians' Business Association, one containing the names of those who fail to pay their physicians, and the other, the names of physicians who attend black-listed patients. For the latter crime a fine of $5 to $25 is imposed. It also proposes to promulgate a uniform fee-bill and to assess each member $1 for the family of each deceased member.

MINNESOTA.

Hamline University, medical department, held its opening exercises, October 1. Prof. Norman Dreisbach delivered the opening address.

Dr. Peter J. McCormick, Yazoo City, has brought suit against the estate of the late Capt. R. C. Shepherd, for $6000 for professional services. The executor claims that the bill is exorbitant and will contest it.

A plan of medical inspection of schools has been submitted to the Minneapolis Board of Education by Drs. Richard O. Beard and Henry M. Bracken, who urged its adoption. It contemplates the appointment, by the board, of four medical inspectors at a nominal salary, who will appoint a staff of unsalaried assistant physicians, each of whom will make a daily visit to the schools to which he is assigned, examine sick children, advise the teachers what to do, and report to the medical inspector.

MONTANA.

The health officer of Helena sent two cases of suspected smallpox to the county hospital, September 23.

Bids for constructing a twelve-room brick hospital and hospital steward's house at Fort Keogh have been secured by Col. Pond, department quartermaster. The bids on the hospital range from $23,087 to $31,917.

Smallpox is rampant in Butte. In the week ended September 24, nineteen cases were sent to the isolation hospital. The authorities have awakened from their apathy and have empowered the city physician to use his discretion regarding compulsory vaccination.

NEW YORK.

Dr. Lucian Howe, Buffalo, has returned from Europe.

A serious epidemic of diphtheria is reported from Ithaca.

The health officer of Troy reports for the month of September 33 deaths and only 13 births.

Dr. William C. Krauss, Buffalo, has been made one of the associate editors of the *Psychiatrichc Wochenschrift*, published under the direction of Dr. J. Bresler, of Freiburg (Schliesin), Germany.

Dr. Frederick A. Cook, Brooklyn, who accompanied the Belgian antarctic expedition in 1897, as surgeon, has written his experiences in a volume entitled "Through the First Antarctic Night."

On October 5 the cornerstone of a new hospital at Oneonta was laid with appropriate ceremonies. The building is to be erected and supported by Col. Reuben E. Fox, and, in memory of his wife, is to be known as the Aurelia Osborn Fox Memorial Hospital.

New York City.

The Cornell Medical School opened in its new home, October 2, and on October 5 President Schurman, of Cornell University, formally accepted the building in the name of the university.

The fiftieth anniversary of the marriage of Dr. and Mrs. R. Ogden Doremus occurred on October 1. Dr. Doremus equipped the first laboratory in this country for instruction in analytical chemistry. He has been a professor in Bellevue Hospital Medical College and in the College of the City of New York for over thirty years.

OHIO.

Dr. Charles W. McGuire, Toledo, has been appointed demonstrator in the chemical laboratory of the Toledo Medical College.

Dr. Yeatman Wardlow was married to Mrs. Lillian Beatty, widow of General Beatty, of Cincinnati, at Asheville, N. C., September 27.

Columbus.

Dr. R. H. Wilson has started for Bluefields, Nicaragua, where he has accepted a position with a rubber company.

All-night street-car service is demanded by the Columbus Academy of Medicine, which passed with but one dissenting vote, resolutions presented by Dr. William U. Cole, providing for a half-hour all-night schedule.

Dr. Robert E. Ruedy, assistant physician at the State Hospital for the Insane, has resigned and will take up practice in Cleveland. At an entertainment given in his honor, September 28, the officials and employees of the hospital presented him with a handsome chair.

At the meeting of the State Medical Board, October 3, it developed that none of the osteopaths of the state had availed themselves of the privilege accorded them by the last legislature of securing a license to practice by passing an examination. The members of the board are in doubt as to whether the osteopaths are preparing to leave the state or mean to fight the law in the courts.

The health department of Columbus has ordered that the inmates of houses of prostitution be regularly examined each week by the nearest district physician. It is thought that by thus having the members of the department assume the responsibility, the spread of venereal diseases could at least in part be prevented. As a result of the order there has already been a clash between the department and the physicians doing contract work with these houses.

Cincinnati.

Miami Medical College opened for its fall session, October 2.

Drs. Oliver P. Holt and Edward S. McKee have returned from Europe.

The Cincinnati College of Medicine and Surgery commenced its work for the college year, on October 2.

The new buildings for the City Branch Hospital for Consumptives will be ready for occupancy about Jan. 1, 1901.

The Medical College of Ohio opened for regular routine work, October 4. Prof. Phineas S. Conner and Dean Thaddeus A. Reamy welcomed the students.

At the regular monthly meeting of the board of trustees of the City Hospital, it was decided that each member of the interne staff should serve a term of six weeks at the consumptive hospital.

PENNSYLVANIA.

Dr. J. W. Worrell has moved from Brownsville to Pittsburg.

Dr. Thomas E. Roche and Miss Bridget G. Mulvihill, both of Renovo, were married, September 25.

Pittsburg has an increasing number of deaths from violence. In 1894, 290 bodies were received at the morgue; in 1895, 311; in 1896, 328; in 1897, 326; in 1898, 409; in 1899, 490, and in 1900 up to September 25, 499.

On account of the prevalence of smallpox at Erie, the public schools will not be opened for two weeks, in order to permit all the pupils to be vaccinated. There are 7 cases under quarantine, and no new cases have developed for several days.

Warrants have been issued in Pittsburg for the arrest of 419 dealers of oleomargarin. It is said that of 800 samples of butter examined, 498 were found to be oleomargarin. All told, 647 suits have been instituted. At Hollidaysburg the State Pure Food Commission has caused a number of arrests to be made for this offense. Six dealers were also placed under arrest for selling impure milk.

On October 3 a boy living at Chambersburg fell from a gate and fractured his leg. His father, it is said, picked the boy up and began singing a hymn, and did not send for a physician because he was a believer in the faith cure. A member of this sect was therefore called in and religious services were held. Subsequently the father called in a physician, who reset the bones. The district attorney has warned the father that if the boy is made a cripple or dies he will be held criminally responsible.

Dr. Henry Beates, president of the State Board of Medical Examiners of Pennsylvania, is making a thorough examination into the character of an institution which is known both as the Delaware University and University of Delaware, with headquarters located in a saloon, at Wilmington, Delaware. It is believed that the incorporators were a saloon keeper, a railroad conductor and a Doctor Foster, the latter of whom, it is said, made a thorough canvass of England and parts of Germany. England is thought to have been the first territory canvassed by this institute, but through the exposures made by certain parties they did not succeed.

Philadelphia.

The vacancy on the resident staff of the University Hospital has been filled by the appointment of Dr. Stanton.

Dr. F. X. Dercum now occupies the chair of mental and nervous diseases, and Dr. J. C. DaCosta that of surgery, in the Jefferson Medical College.

The Common Council a few days ago appropriated for the vaccinating physicians of the city the sum of $5000; and for disinfecting the schools and tanks, $2500.

The opening address at the Medico-Chirurgical College was made by Dr. Joseph McFarland, who called attention to the increased facilities offered by the laboratory recently constructed.

During the past summer a number of improvements have been made at the University Hospital. Eight new rooms have been added to the private wards, and a new medical ward for children has been established.

Through the will of Charles Edward Orme an estate valued at $50,000 has been left to the Episcopal Hospital to maintain as many free beds as the income will support, the same to be known as the "Charles Edward Orme Free Beds."

The Home of the Holy Child for Colored Children, located at 627 North Forty-third street, has been placed under strict quarantine owing to the development of diphtheria among the inmates. Six cases have so far been reported. At the present time there are 26 children in the institution.

The twelfth annual report of the Mary J. Drexel Home of the German Hospital has been made known and contains the following: Number of children cared for during the year, 415; number of house patients, 3199; number treated in the dispensary, 39,680; number of operations performed, 944.

Dr. Leo Alexandroff, who came to Philadelphia a year ago as assistant-surgeon for the Russian cruiser *Varlag*, and who decided to remain in this country, and to that end left his ship and took out his first papers, is now in the custody of the United States court, the Russian government having claimed him as a deserter.

Dr. Alfred Stille's will has been admitted to probate and bequests have been made known as follows: His medical library, manuscript, indexes of pathology and therapeutics, various medical writings and a portrait of John Hunter have been given to the College of Physicians. Various other bequests were made. The value of the estate has been placed at $80,000.

Dr. Joseph Neff, who has for some time been a member of the Board of Charities and Corrections, has tendered his resignation to Mayor Ashbridge. It was accepted, and Mr. William J. McLaughlin has been appointed in his stead. The physicians now on the Board of Charities are: Dr. John V. Shoemaker; Dr. E. R. Kirby; Dr. Albert Dingee, and Drs. C. S. Middleton (homeopath).

The lax methods by which poisonous drugs have been sold in this city for some time past has been a subject considered by the State Pharmaceutical Examining Board during the past week. A special agent has been visiting the different drug stores to determine the qualification of the clerks employed and the restrictions placed on the sale of these drugs. The poison registers of the drug stores are being looked into carefully.

The plan of work of the United Hebrew Charities is to be largely remodeled after that of Chicago and Cincinnati. By this method, instead of giving separate entertainments and donations for individual charities, the whole organization should receive donations and carry on the necessary work. The society's physicians during the year made 20,748 visits. The total receipts had been $47,238.29 and the disbursements $44,547.84.

At the University of Pennsylvania, owing to the many changes in the curriculum, the high grading, and lengthened course in the department of medicine, the number of students is reduced to a limited extent. The new schedule provides that juniors having elected the biological course may matriculate in the medical school, at the same time taking the necessary branches in the colleges. In this way they will receive the college degree and likewise will be admitted to the second year class of the medical department on completing the college course.

A movement has been set on foot at the Jefferson Medical College to establish a memorial to the late Professor Jacob M. da Costa. This idea was recommended by the faculty and was first proposed by the Hon. William Potter in his opening address to the students of the Jefferson Medical College last week. The following resolution was adopted: "Resolved, That for the purpose of commemorating the eminence of the late Professor Jacob M. Da Costa as a member of the faculty of this college, his notable career as a physician and his distinguished services to humanity and to the advancement of medical science, a laboratory of clinical medicine, to be known as the 'J. M. Da Costa Memorial Laboratory of Clinical Medicine' shall be established in connection with the Jefferson Hospital; and that the medical profession, the friends of Dr. Da Costa, and any others who may desire to contribute to the fund needed for the establishment of such laboratory shall be given the opportunity of subscribing thereto." The following committee was appointed to receive subscriptions: Simon Gratz, chairman; Judge Sulzberger, Dr. W. W. Keen, and Dr. James C. Wilson.

CANADA.

Dr. J. J. McFadden, Neepawa, Man., has been appointed superintendent of the Insane Asylum at Brandon.

Typhoid fever has been very prevalent in all parts of the city of Winnipeg, but it is now being got under control.

The Hon Dr. Sullivan is resuming lectures in surgery to Queen's medicos after an absence of one year through sickness.

The directors of the Lake of the Woods Milling Company at their annual meeting, held last week, voted $2500 to the Winnipeg General Hospital and $500 to the St. Boniface Hospital, Winnipeg.

Dr. C. J. Fagan, provincial health officer of British Columbia, is having the Indians on the local reserves vaccinated as a precautionary measure. There seems to be danger of the introduction of smallpox into Victoria.

The St. Thomas (Ont.) Medical Society is endeavoring through its members to have the rate per capita for lodge work raised, and the fraternals are threatening in their opposition to this unpopular procedure to import other physicians into that city.

Dr. Fife Fowler, who has been connected with Queen's University medical department, Kingston, for fifty years, has resigned the position of professor of the practice of medicine. Dr. James Third, late superintendent of the Kingston General Hospital, is his successor. Dr. Fowler will retain the honorable position of Dean of the Medical Faculty.

Dr. W. T. Barrett, medical superintendent of the Samaritan Hospital, Dawson City, arrived in Winnipeg Oct. 1, on his way to visit the hospitals of London and Edinburgh. He states that when he left Dawson the population of that place was more than usually healthy. There is now only one case of smallpox, and other infectious diseases are very scarce. In the doctor's opinion, the Yukon is an eminently healthy country. Dr. Barrett was for several years connected with the St. Boniface Hospital, Winnipeg.

Toronto.

The department of Dr. J. J. Mackenzie, professor of pathology in the medical department of Toronto University, is being equipped to the extent of $4000.

In the medical department of Toronto University 110 students have been enrolled in the freshman class this year as against 103 in 1899, 73 in 1898 and 61 for the term of 1897-98. Several additions have been made to the staff of demonstrators.

Queen's University may appeal to the Ontario Parliament at its next session for a grant for carrying on its work. Toronto University being the only University in the province receiving aid from the government, will necessarily look askance at such a proceeding, being also fearful that Queen's might be raised to the status of a provincial university for the eastern portion of the province.

REAMALGAMATION OF TORONTO AND TRINITY.

Sir William Meredith, the new Chancellor of Toronto University, addressing Convocation, which was held on the campus on the afternoon of Oct. 2, spoke concerning this matter. He paid a high tribute to the ability of the medical profession; and thought that while there was another teaching body in the city, they should be on good and fair terms with every school. The subject was now under discussion, and he expressed the sincere hope that some means could be devised by which the energies of the men connected with both schools may be combined for the purpose of promoting the advancement of medical education in this country.

The executive of the Ontario Consumption Association met in Toronto last week and prepared an application to the city council for $50,000 for a consumption sanatorium, to be authorized by the people at the municipal elections in January next. To show their good faith in the movement, the Association will undertake to raise $30,000 by popular subscription, the city will then provide the $50,000, which, with the offer of the treasurer of the National Association of $20,000, will make

$100,000, the amount necessary to erect and maintain an institution of 100 beds at first. A suitable site for the building, about nine miles from Toronto, has been secured.

Montreal.

Dr. Laberge, city health officer, has returned from Paris.

Dr. J. Alton Harris has returned from active service in South Africa.

The last case of smallpox has been discharged from the civic hospital.

The Medical Faculty of Bishop's College opened on October 1, with a fairly large attendance of students.

The Medical Association for St. Frances Xavier District met in Sherbrooke last week. An important question discussed was that of a medical tariff, and it was decided to publish the discussion in the Montreal and country papers, so that there might be a clear understanding between the physicians and public generally on the subject.

FOREIGN.

The library of the great chemist, Bunsen, is now being sold at Leipsic.

Lannelongue, of Paris, has been made a commander of the French Legion of Honor.

The professor of psychiatry at Jena, Dr. Ziehen, has accepted a call to the chair of psychology at Utrecht.

The friends of Senator and Busch, of Berlin, celebrated the twenty-fifth anniversary of their connection with the faculty September 14.

Another medical victim to the Swiss glaciers is Dr. Max Schaeffer, a promising young rhinologist of Bremen, who was found dead in a crevasse.

The court physician to the Ameer of Afghanistan is, or was until recently, a woman. Her name is Miss Lillias Hamilton, M.D., Brux. and London School of Med. for Women.

Yersin was awarded the Audiffred prize of 15,000 francs last spring for "his acts of devotion," and has applied the sum to the extension of his plague-serum laboratory at Nha-Trang.

Menelik, Emperor of Ethiopia, has been awarded the first prize on the list offered by the French Society against the Abuse of Tobacco, as he prohibited the use of tobacco throughout his dominions under severe penalties.

The death of Sir William Stokes in South Africa was followed in a few days by that of his talented sister, Miss Margaret Stokes, in Dublin. She was the author of several noted works on Irish ecclesiastical architecture and archeology.

The friends and admirers of Professor Potain, of Paris, propose to present him with a souvenir medal on the occasion of his retirement from the Charité next spring. Subscriptions are received by P. Masson, 120 Boulevard Saint-Germain.

The friends of Dr. Li Willems, of Hasselt, Belgium, have called upon all who profited by his discovery of preventive inoculation of pleuropneumonia in cattle to co-operate in celebrating his fiftieth professional anniversary, October 14.

The Graefe prize for the best works that appear in von Graefe's *Archiv f. Ophthalmologie* during the years 1896 to 1899, has been divided between Dr. Hess, for his work on "Accommodation," and Bernheimer, for his studies on the "Nucleus of the Motor Oculi."

El Siglo Medico announces that the Spanish government has appropriated $8000 to enlarge Dr. Cajal's laboratory at Madrid, with $4,800 annually for its maintenance and a pension of $1,600 for the distinguished scientist, on whom the Moscow prize was bestowed by the International Medical Congress.

The pilgrims constantly arriving at Rome to celebrate the "holy year" are filling the streets with beggars and the hospitals with incurables. The sanitary conditions are menaced by this state of affairs and the Italian minister of the interior has issued an order forbidding the further organization of pilgrimages composed entirely of the sick and indigent.

The new laboratories at Manguinhos, Brazil, for the production of plague serum and vaccin are completed and are models in every respect, the *Brazil Médico* asserts. The different pavilions are on separate hills, about 1500 feet apart, with the building for the horses in the valley between. The entire establishment is in charge of Prof. Pedro Affonso and Oswaldo Cruz.

The *Deutsche Med. Woch.* states that the calendar published by the Vienna *Bote* has been confiscated by the authorities on account of the advertisements contained in it of Thierry's "Wunderbalsam" and salve. Another calendar has shared the same fate on account of advertisements of a charlatan in Saxony and the salve of a firm in Budapesth. The Bohemian authorities have forbidden the "Nature-Healing Company" to establish new branch establishments.

The French Railway du Nord has constructed a two-story building in connection with its Paris depot for receiving and caring for the injured in an accident. Every detail to ensure asepsis and ample illumination day and night has been carefully studied. The three large rooms on the first floor can be thrown into one if required. There are waiting and consultation rooms, facilities for massage and radioscopy and the numerous attendants are drilled regularly in the entire processes of preparing for and applying first aid after notification that an accident has occurred. The Lariboisiere Hospital is close at hand and very severely injured persons will be taken directly there, but those requiring merely temporary care will be treated at the railroad emergency station.

Correspondence.

Degeneracy in the Army.

Chicago, Oct. 4, 1900.

To the Editor:—*The American Journal of Insanity* for July contains an article by Dr. Charles E. Woodruff on "Degeneracy in the Army," and remarks anent army musicians that "with the high musical sense there seems to be a liability of inferiority in some other ways, for they possess physical stigmata in far greater proportion than does the average soldier. They have to be managed by entirely different rules of discipline." What is true of army musicians is also true of musicians in state institutions for defective classes, etc. The most degenerate individuals of an institution are usually to be found among the members of the band. In many cases they are the most difficult to manage. A notable illustration is that of the band at the New York State Reformatory at Elmira. At one time more than two-thirds of the band were dressed in the uniform of the lowest grade; physical stigmata were so marked as to attract special attention.

It should also be remembered that marked imbecility may co-exist with great musical powers, as witness the case of "Blind Tom." Music, being one of the primitive arts of the race, is hence less likely to be affected by degeneracy than later-acquired arts.

Eugene S. Talbot, M.D.

A Uniform Classification for Health Statistics.

Lansing, Mich., Sept. 17, 1900.

To the Editor:—Referring to your editorial in The Journal of September 15, under the above title, I desire to say that it gives a somewhat imperfect impression of the nature and progress of the movement for the adoption of a uniform classification of causes of death, which is now an assured success. As the subject is one of very great practical importance, I trust that you will afford me the opportunity of making a more correct statement of the facts.

In the first place the classification quoted by you on page 706 in the report of the proceedings of the International Congress of Hygiene and Demography is evidently one of the most condensed forms of the Bertillon classification, and does not fully exemplify its nature as usually employed. This classification is not merely the " [illegible] but is t cation recommended for adoption to the International Statistical Institute by a committee headed by Dr. Jacques Bertillon at its session in Chicago during the World's Fair in 1893. Since that time it has been employed in Paris, Moscow, Madrid, Buenos Ayres, Montevideo, Havana, Boston, Baltimore, Buffalo, Milwaukee, Toledo, and many other cities of this country, besides in the States of Michigan, Vermont and Indiana and the Canadian Provinces of Ontario and Quebec. The classification reported by Dr. Bertillon's committee to the International Statistical Institute was in three forms, viz., an extended or full classification, a short form and an intermediate form. The long form is that usually referred to and is best adapted to the use of states and large cities. It contains about 160 titles, instead of the 38 given by your correspondent from Paris, and is abundantly full for all ordinary statistical purposes. The short forms are presented merely for the use of such cities as may find a condensed list more convenient for use.

The American Public Health Association did not adopt the system at Philadelphia in 1897, regarding it as a measure of very far-reaching importance and one requiring the fullest consideration. After the lapse of a year, however, at Ottawa, Canada, in 1898, the cordial assent of the Association was given, and as I believe, has been a factor of great importance in uniting the registrars of South America, Central America and Europe, with the exception of England only, in the adoption of a uniform classification for the world. I may also say that the International Conference of State and Provincial Boards of Health indorsed the system most fully at the meeting held at Detroit in 1898 just prior to the session of the American Public Health Association at Ottawa.

The action of the American Public Health Association in 1898 not only provided for the general adoption of the classification by the registration offices of Canada, Mexico and the United States after its revision, but also provided a plan for that revision and recommended that it be held at Paris in 1900 under the auspices of the International Congress of Hygiene and Demography. This plan was indorsed fully in its general features by the International Statistical Institute at its session at Christiania, Norway, in 1899, and its completion constitutes the first decennial revision of the International Classification, which you have just announced. It is intended that such a revision shall be made every ten years, with the full-co-operation of all of the registration offices employing the system, to the end that the classification shall be kept fully abreast of the advances of medical science. Unless this is done, it will rapidly grow obsolete, as have many of the systems now in use in this country, which are soon to be supplanted by the modern classification.

A short paper on this subject of uniform classification was read by me before the Section of Hygiene and Sanitary Science of the American Medical Association at the last meeting, at Atlantic City, N. J., and a resolution was passed in its favor by the Section. This resolution was indorsed by the Executive Committee, but failed to carry in the general session, owing, I believe, to the expressed opinion that the subject was a new one and the Association unprepared to take immediate action. As so much has been done since 1893, including the adoption of the system by nearly every registration State in the Union, I wish that this information could be brought generally to the knowledge of the members of the Association, so that they may be sufficiently informed to act at some subsequent session of the Association.

Dr. Bertillon informs me that the revised classification will be ready for publication in about a month, and I trust that the American Public Health Association, at its meeting soon to be held at Indianapolis, will make provision for at once preparing a translation and getting it into the hands of American registrars and public health officials, so that its use can be begun promptly on January 1, 1901. We shall then have a definite basis, alike in all parts of the country, on which to base our public health work, and as a result we may fairly expect a much increased use of mortality statistics in sanitary work, of which they form the indispensable foundation.

Cressy L. Wilbur, M.D.

[If the Bertillon classification is to be universally adopted it is to be hoped it will receive the modification it needs. Up to the present time we can not consider it a satisfactory one by any means; it is in some respects out of accord with modern pathologic ideas and almost ridiculous in some of its minor details, as given in the pamphlet published in this country. —Ed.]

Book Notices.

Practical Gynecology. A Comprehensive Text-Book for Students and Physicians. By E. E. Montgomery, M.D., Professor of Gynecology, Jefferson Medical College. With 527 illustrations, nearly all of which have been drawn and engraved especially for this work, for the most part from original sources. Cloth. Pp. 819. Price, $5.00. Philadelphia: P. Blakiston's Son & Co. 1900.

Fashion in medical book-making seems to be running to the composite, which may be advantageous, and the means of producing a better book than one written by an individual. It may be the old-fashioned notions of the reviewer, but he believes in the old idea of one book, one author, and he should have all the responsibility, all the criticism and all the glory that attach to it. The composite is likely to be written under a "rush" order; so much space, in so much time, for so much money. The work before us is the work of one individual, and the personality of that individual is evident through the whole book.

The author tells us in the preface that it has been under consideration for fifteen years and that much of it has been rewritten several times. This may readily be believed, for the result shows painstaking effort in every detail, in conciseness of statements, in arrangement of subjects and in the systematic order and completeness in which each is considered. The general plan is entirely different from that usually adopted. Instead of a division into chapters, the book is divided into sections, consecutively numbered, and with heavy black-faced "side-heads." While such an arrangement as the author uses has many advantages—an important one being an easy reference to any subject—still it has a drawback in the fact that the main subject is given no more distinctive heading than its subdivisions. This objection, however, may be more apparent than real when one becomes used to the style. By the way, the various lacerations of the pelvic floor, vaginal fistula, etc., are classified under the general head of "malformations," possibly correctly so, but hardly, according to the generally accepted meaning of the term. The manner in which the author considers the subjects of diagnosis and methods of examination shows that he appreciates the needs of the student, the difficulties to be encountered and the importance of a thorough understanding of gynecological examinations. The technique of the various operations, even the minor ones, is described in sufficient detail to enable the student to understand every stage of procedure. This, with the wealth of illustrations, makes the appreciation of the various stages an easy matter.

The author is neither too radical nor too conservative in his consideration of the conditions that may need radical operations. In the introduction he tells us that the true gynecologist must be "so conservative that he will sacrifice no organ whose physiologic integrity is capable of being restored; so bold and courageous that his patient shall not forfeit her opportunity for life or restored health through his failure to assume the responsibility of any operative procedure necessary to secure the object." This is the basal idea that permeates the book; the ultra-radical operator will find no endorsement, and the "tinkering" gynecologist—he who treats all diseases of women by means of a pledget of cotton and a speculum—no encouragement in its pages.

The book is one that can be recommended to the student, to the general practitioner—who must sometimes be a gynecologist to a certain extent whether he will or not—and to the specialist, as an ideal and in every way complete work on the gynecology of to-day—a practical work for practical workers.

A Manual of Surgical Treatment. By W. Watson Cheyne, M.D., F.R.C.S., F.R.S., professor of surgery in King's College, London, and F. F. Burghard, M.D., M.S., F.R.C.S., teacher of practical surgery in King's College, London. Volume III. The Treatment of the Surgical Affections of the Bones; Amputations. Cloth. Pp. 305. Price, $3.50. Philadelphia and New York: Lea Bros. & Co. 1900.

The present volume treats of the surgical affections of the bones and of amputations. As the work is a "Manual of Treatment," the pathology, symptoms, diagnosis, etc., of the various conditions are but briefly mentioned, often to the disadvantage of the work, because the selection of some particular method of treatment so often depends on a recognition of the exact conditions present that it is advisable to discuss the points together.

In the treatment of fractures many little points are detailed which are of great value to the surgeon and which are seldom found described in text-books on surgery. The advice to immediately wire all fragments will be concurred in by most surgeons, but they would prefer to immobilize a knee-joint by splint or cast after wiring a fractured patella before allowing it to remain without fixation, as recommended.

The statement is made that the difficulty in the treatment of the so-called T-shaped fractures of the lower end of the humerus "is so great that it is almost hopeless to attempt to obtain a useful movable joint by treating the fracture merely by splinting and massage; the only probability of getting a really good result is by operative interference." This is entirely too radical, and many excellent results have been obtained in these cases by proper fixation, and better results, too, than would probably follow indiscriminate attempts to fix by pegs or wire the small cartilaginous epiphyses, as it is in young children that the majority of these fractures occur. Unquestionably there are cases attended by displacement or rotation of the fragments that would be best treated by operation, but they are not in the majority.

On the whole, the chapters on fractures are well written and the practitioner will find much information of great value in the handling of these troublesome cases. Under "Fatty Embolism," a distinct contradiction is found. Of the symptoms it is stated: "They generally come on within a few hours." A few lines farther down we find: "As a rule they (the symptoms) do not come on for some hours after the injury."

The chapters on infections of the bones, tumors, etc., are only fair. The various amputations are well described and illustrated, although several methods are omitted, as for instance, Wyeth's excellent method of controlling the hemorrhage in amputation at the hip-joint.

The volume is of convenient size and the publisher's work well done.

Surgical Anatomy. A Treatise on Human Anatomy in its Application to the Practice of Medicine and Surgery. By John B. Deaver, M.D., Surgeon-in-Chief to the German Hospital, Philadelphia. In Three Volumes, Illustrated by About 400 Plates, nearly all Drawn for this Work from Original Dissections. Vol. II. Royal Octavo, One-half Morocco, pp. 709. Price $8. Philadelphia: P. Blakiston's Son & Co. 1900. Comprises the Neck, Mouth, Pharynx, Larynx, Nose, Orbit, Eyeball, Organ of Hearing, Brain, Male Perineum, Female Perineum.

This second volume of Deaver's Surgical Anatomy is in every way up to the high standard of the first, and will make as good an impression as did its predecessor. All that we said last year of the first we would repeat of the second volume. This one covers the most important structures of the body, and the parts that baffle the student in his endeavors to master their intricacies—the head and neck. The author's descriptive style is concise, clear and easily understood, and this, with the excellent illustrations, makes his book one that will be popular, not only with the student, but with the surgeon and general practitioner. Nothing can take the place of the cadaver as a method of mastering anatomy, but Deaver's work will make an excellent substitute. The illustrations are all full page, are works of art, beautiful; but above all, are of great practical value, as they reflect perfectly the artist's true delineation of Nature. There has been an evident disregard of expense in supplying them, both as to quality and quantity. It would not be fair to the author, or true, to say that the illustrations are the more important part of the work, but they are certainly very attractive and place it in the front rank as an illustrated medical work.

Occasionally matter has crept into the text that belongs to a work on surgery and not to one on surgical anatomy. The impression the reader will get is that once in a while the author forgot himself and thought he was writing a text-book on surgery, else why so much on technique and so little on structures in several instances? Quite a number of the full-page illustrations occur twice, among them being clxi, clxii, clxiv, clxv, clxvi, clxxviii. We presume these are duplicated for a purpose, although we fail to understand what that might be.

Clinical Examination of the Urine and Urinary Diagnosis. A Clinical Guide for the Use of Practitioners and Students of Medicine and Surgery. By J. Bergen Ogden, M.D. Illustrated. Cloth. Pp. 416. Price, $3.00. Philadelphia: W. B. Saunders & Co. 1900.

This is a new work on urinary analysis, and a thorough one in its special branch of chemical examination. The author states in his preface that he has aimed to present in as concise a manual as possible the chemistry of the urine and its relation to physiologic processes, the most improved working methods, both qualitative and quantitative, the diagnosis of diseases and disorders of the kidneys and urinary passages. The book is divided into two parts. In the first part the chemical and microscopical methods are described in detail, and numerous illustrations, many original, have been introduced; it will form a convenient and satisfactory manual of its subject. The second part treats particularly of the diagnosis, including our present knowledge of the character of the urine in, and the differential diagnosis of, diseases of the kidneys and the urinary passages, with a brief statement of the different signs in the different forms of disease. A chapter is also given to the characteristics of the urine in diseases outside of the urinary tract, such as fevers, pneumonia; infectious diseases, like cholera, scarlet fever, diphtheria, tuberculosis; disorders of the intestines and of the nervous system, as well as general conditions like anemia, scurvy and certain forms of poisoning. The appendices illustrate methods of recording urinary examinations and give inventories of the reagents and the apparatus required. The work is an eminently satisfactory one and one likely to fulfill its object.

Anatomy of the Brain. A Text-Book for Medical Students. By Richard H. Whitehead, M.D. Professor of Anatomy in the University of North Carolina. Illustrated with Forty-one Engravings. 6¼ by 9½ Inches. Pp. 96. Extra Vellum Cloth, $1 net. Philadelphia: The F. A. Davis Co.

This brief and convenient manual of the general anatomy of the brain, with its numerous schematic drawings, which are a great advantage to the student, seems, as far as it goes, to represent our present knowledge of the subject. The author, as he says, thought best to omit minor details, and exclude as far as possible subjects which are still matters of controversy. The student, therefore, will find in his further studies many additional facts not here mentioned. The original names for the parts are given, but the terms adopted and recommended by the German Anatomical Society are inserted parenthetically. It would not have been inappropriate and would have been in the line of progress if the author had also parenthetically inserted the nomenclature of Wilder, some of which at least is likely to come into general use. The book is one that will undoubtedly be serviceable and can be recommended to the student.

Lectures on the Principles of Surgery, Delivered at the University of Michigan. By Charles B. Nancrede, A.M., M.D., LL.D. With an Appendix Containing a Résumé of the Principal Views held concerning Inflammation, by Wm. A. Spitzley, A.B., M.D. Illustrated. 8vo. Cloth. Pp. 398. Price, $2.50 net. Philadelphia: W. B. Saunders. 1899. W. T. Keener, Chicago Agent.

This volume is written in lecture style and is evidently intended for students. The changes which take place in normal wound-repair are first described, and the differences between repair and inflammation clearly defined. The growth of microbes in the wound is made the distinguishing point of inflammation, and the various complications which may arise as a result of the different kinds of infections are briefly discussed. Hemorrhage, shock, methods of sterilization and the administration of anesthetics are also considered, and the volume closes with a brief historical appendix on inflammation, by W. A. Spitzley, A. B., M.D.

The work is clearly written, and expresses the author's own views, without entering deeply into the subjects. It is well adapted to give to the student a general outline of the subject and work before him.

Psychopathia Sexualis. With Especial Reference to Antipathic Sexual Instinct. A Medico-Forensic Study. By Dr. R. v. Krafft-Ebing, o. ö. Prof. Für Psychiatrie und Nervenkrankheiten an der K.K. Universität, Wein. The Only Authorized English Translation of the Tenth German Edition. Cloth. Pp. 585. Price, $5.00. Chicago: W. T. Keener & Co. 1900.

It is not often that a foreign work passes through two separate translations into the English language, as is the case with the present one. The reason why this is so is rather obvious, though it can not be especially justified. The book is one of a small class that is much more widely read than it should be, by non-medical readers. Its proper place is on the reserve shelves, sometimes called "hell," of a well-conducted library. The author has enlarged it considerably, and the present translation appears to be a very satisfactory one. We can not recommend the book generally, but it will, of course, recommend itself to those who want to read it. This undoubtedly is the most complete, or at least the largest work, on its subject in our or any other language. The present volume has one advantage, or it may be such, that the Latin language is more frequently made use of than in the former editions. The author's wishes for its good reception will undoubtedly be gratified. What we object to in the work is the morbid popularity it has gained.

Idroterapia. Del Prof. Gaetano Gibelli, Proprietario del gabinetto elettro-termo-baro-idroterapico, Milano, Via Manzoni, 50 Con. 30 incisioni. Cloth. Pp. 237. Milano: Ulrico Hoepli. 1900.

The subject of hydrotherapy is given in a brief compass and apparently covering the subject. The chief thing about the work which makes an unfavorable impression occurs in the rather florid mention of certain empirics and their methods, especially Father Kneipp, who is not considered worthy of the same notice by other works. The book, however, to those who read Italian, will probably be a convenient, though limited, handy manual on the subject.

L'Assistenz dei Pazzi nel Manicomio e nella Famiglia. Istruzioni elementari per infermeiri ed infermiere. Dott. A. Pieraccini, Vice Direttore del Manicomio Provinciale di Macerata. Con Prefazione del Prof. A. Morselli, Direttore della Clinica Psichiatrica di Genova. Cloth, Pp. 64. Milano: Ulrico Hoepli. 1901.

This volume, one of the numerous Hoepli manuals, is a hand-book for instruction to mental nurses and asylum attendants, covering apparently the whole ground of their duties. It has the advantage of considering certain subjects which are not ordinarily discussed in nursing-manuals; thus the methods of transporting patients to asylums, distinctions between real and apparent death, the ethics of the business of attendants on the insane, etc., are fully discussed. It is a very excellent little work in its way.

The Microtomist's Vade-Mecum. A Handbook of the Methods of Microscopic Anatomy. By Arthur Bolles Lee. Fifth Edition. Cloth. Pp. 532. Price, $4.00. Philadelphia: P. Blakiston's Son & Co. 1900.

This is the fifth edition of a work which has been before the medical public for a number of years; revised up to date. A number of references and methods have been eliminated as superfluous, and repetition and unnecessary amplifications have been avoided so as to keep the book within the old limits of size. Considerable new matter in regard to methods has been added. The book will maintain its former popularity not only with the medical profession, but with biologic workers as well.

Clinical Examination of Urine with an Atlas of Urinary Deposits. Including Forty-one Original Plates. Mostly Colored. By Lindley Scott, M.A., M.D. Cloth. Price, $5. Philadelphia: P. Blakiston's Son & Co. 1900.

In addition to the two books noticed above, we have this one which has the special advantages of presenting in large plates, colored and otherwise, the microscopic features observed in urine examinations. The principal methods and tests are also given, and while not extensive in its scope it will undoubtedly meet with favor among those who wish a convenient, handy, and brief manual of its special subject. It is handsomely gotten up, and the illustrations are scientifically correct, as well as otherwise excellent.

Practical Uranalysis and Urinary Diagnosis. A Manual for the Use of Physicians, Surgeons, and Students. By Charles W. Purdy, LL.D., M.D., Fellow of the Royal College of Physicians and Surgeons, Kingston. Fifth Revised and Enlarged Edition. With Numerous Illustrations. Including Photo-engravings and Colored Plates. Cloth. Pp. 392. Price, $3.00 net. Philadelphia: F. A. Davis Co. 1900.

This book is evidently being well received, as it is the fifth edition within six years, thus showing that it has met with the favor of the profession. The author has extended it considerably, bringing in accounts of new methods, adding new tables and giving it a general revision.

Medical Diagnosis With Special Reference to Practical Medicine, a Guide to the Knowledge and Discrimination of Diseases. By J. M. Da Costa, M.D., LL.D., physician to the Pennsylvania Hospital. Illustrated. Ninth edition, revised. Price, $5.00. Philadelphia and London: J. B. Lippincott Company. 1900.

This work has been thoroughly revised, partially rewritten, and brought up to date in all its departments. Da Costa's has for years been recognized as a standard text-book on diagnosis, and this revision has made it possible for it still to maintain the enviable position it has held so long.

Deaths and Obituaries.

Samuel Smith Purple, M.D., died at his home in New York, from heart disease, September 29, aged 78. He was graduated in 1844 from the University of the City of New York. His earliest attention was given to medical editorship, dispensary work and society organization. A special fondness for medical history and biography with a genealogical bias was subsequently developed. He was editor-in-chief of the *New York Journal of Medicine* from 1848 till 1857; president of the New York Academy of Medicine in 1875, and re-elected in 1877; and president of the Alumni Association of the Medical Department of the University of the City of New York, from 1867 till 1871. He made the first donation of 4000 volumes to the library of the Academy of Medicine. At the time of his death he owned one of the largest private libraries in New York, containing many exceedingly rare volumes.

Theodore N. Wise, M.D., died September 26, at his home in Covington, Ky., from Bright's disease, after a long illness. He was born at Alexandria, Va., June 29, 1817, was graduated from the Medical College of Ohio in 1837, and immediately began the practice of medicine in Covington.

Joseph F. Mulcahy, M.D., Lowell, Mass., died after a long illness, September 24, aged 36. He was a graduate of the medical department of the University of New York, in 1891, and was dispensary physician and a member of the staff of St. John's Hospital for several years.

Joseph Trepp, M.D., one of the oldest practitioners in Adrian, Mich., a graduate of the medical department of Western Reserve University, Cleveland, O., in 1854, died September 25, as a result of accidental injuries recently received, at the age of 73.

CLARE W. VIRTUE, M.D., who was graduated from the College of Physicians and Surgeons, Chicago, in 1897, and settled in Akron, O., died September 28, at the age of 30, after a five weeks' illness of diphtheria contracted from a patient.

ROBERT B. SIBLEY, JR., M.D., a graduate of the University of Louisville medical department in 1898, who was obliged to go to Colorado by reason of lung disease, locating in Aspen, died recently from consumption.

RICHARD H. WHITE, M.D., a graduate of Trinity Medical College, Toronto, in 1891, and physician of the lung department of the New York Nose and Throat Hospital, died from phthisis, at Liberty, N. Y., September 26, aged 32.

JAMES M. MONTMOLLIN, M.D., formerly surgeon of the Chesapeake and Ohio system, died after a long illness, at his home, Ashland, Ky., September 24. He was graduated in 1862 from Jefferson Medical College, Philadelphia.

JAMES A. INGRAM, M.D., a graduate of the medical department of Western Reserve University, Cleveland, O., in 1880, and a practitioner in Cleveland since that time, died September 24, from Bright's disease, aged 41.

GEORGE F. KOEPSTEIN, M.D., who studied at the University of Breslau, received his degree in 1886, and had practiced for several years at Guttenberg, Ia., died at Finley Hospital, Dubuque, September 28.

S. POTTS EAGLETON, M.D., formerly of Philadelphia, a graduate of the University of Pennsylvania in 1890, and assistant-surgeon to Will's Eye Hospital, died at his home in Ocala, Fla., aged 33.

JAMES A. MOORS, M.D., who was graduated from the College of Physicians and Surgeons, New York, died, September 26, after fourteen years of invalidism at West Winfield, N. Y., aged 43.

SAMUEL S. DOWNS, M.D., Waterville, Ohio., a graduate of Miami Medical College, Cincinnati, in 1873, died after a long illness from tuberculosis, in Ellsworth, Kan., September [illegible].

H. FINLEY BURT, M.D., who was graduated from the medical department of the University of the South, Sewanee, Tenn., in 1892, died at Sweetwater, Tex., September 26, aged 34.

EDWARD N. WEBSTER, M.D., St. Louis, Mo., who was graduated from Barnes Medical College in 1893, died September [illegible], four days after a surgical operation, aged 32.

LINNAEUS G. WILLIAMS, M.D., Fostoria, O., who was graduated from the University of Wooster, medical department, Cleveland, in 1876, died suddenly, September 24.

HENRY JERVEY, M.D., Sublette, Va., who was graduated from the Medical College of the State of South Carolina, Charleston, in 1861, died after an illness of six months.

THOMAS J. CONEY, M.D., a graduate of Kansas City Medical College in 1871, formerly surgeon for the Santa Fe Railroad, died September 15 at Seguro, Colo., aged [illegible].

JAMES W. BRYANT, M.D., Richmond, Va., who was graduated in 1844 from the department of medicine of the University of Pennsylvania, died September [illegible], aged [illegible].

WILLIAM H. MUNN, M.D., a graduate of New York University, medical department, in [illegible], died at Bellevue Hospital, September 24, from cerebral congestion.

CURTIS F. HAWLEY, M.D., died at his home in [illegible], September 24, aged 74. He was graduated from [illegible] Medical College, Vermont, in [illegible].

DAVID F. [illegible], M.D., Kansas City, Mo., a graduate of the Medical College of Indiana, Indianapolis, in [illegible], died recently at Cape Nome, Alaska.

EDWARD PATTERSON, M.D., [illegible], died September 24, aged [illegible]. He was a graduate of Jefferson Medical College, Philadelphia.

SAMUEL S. DOWNS, M.D., Waterville, O., who was graduated in 1873 from Miami Medical College, Cincinnati, died recently in Kansas.

JAMES M. [illegible], M.D., one of the oldest and most prominent physicians of [illegible], died September [illegible], aged 73.

Miscellany.

Obstruction of Common Bile-Duct by an Ascaris.—P. Ferrari relates in the *Brazil Medico* a case where the diagnosis wavered between obstruction of the common bile-duct and suppurative hepatitis; the patient was previously a healthy woman. Exploratory puncture was negative, but at the autopsy the duct was found plugged with a macerated ascaris, 20 cm. long.

Last Sign of Life.—W. D. Waller presented to the Paris Académie des Sciences, as related in the *Bulletin Médical*, Sept. 29, the galvanometric test based on the fact that living matter responds to electric stimulation by a current in the same direction. The same matter after it has been deprived of life, fails to respond at all to electric stimulation or else starts a contrary current of polarization.

Alvarenga Prize.—The College of Physicians of Philadelphia announces that the next award of the Alvarenga Prize, amounting to about $180, will be made on July 14, 1901. Essays intended for competition may be on any subject in medicine, but can not have been published, and must be received by the secretary of the college on or before May 1, 1901. Each essay must be sent without signature, but must be plainly marked with a motto and be accompanied by a sealed envelope having on its outside the motto of the paper and within the name and address of the author.

Autofixation of Movable Kidney.—Biondi has been very successful in suspending a movable kidney in thirteen cases without sutures or threads, and recommended his process at the International Congress. He exposes the organ and removes the adipose and fibrous capsules, then tampons it in place with a long strip of gauze wound in and out to fill the entire space in front of the lower pole and below the kidney. The decapsulated organ becomes firmly fastened by granulation tissue in the course of a week, when the gauze is removed. Tests on dogs showed that a new fibrous capsule forms which [illegible]. The kidneys thus treated in his cases retained their weight and showed no appreciable alteration.

Rupture of Vulvar Varices During Delivery.—In [illegible] cases that have been published, [illegible] of the patients died, all but three in less than thirty minutes. [illegible]

[illegible]—[illegible]

bellious neuralgia, Pitres injects 1 to 2 cg. of cocain on the route of the affected nerve. If the pain persists undiminished by the cocain the neuralgia is probably of central origin and intervention would be fruitless. If the pain is abolished by the cocain the lesion is probably peripheral and an operation has every chance of curing by removal of the nerve causing the neuralgia. It should always be divided above the part involved and the exact point can be established with the cocain. The lancinating pains in ataxia can be relieved for three hours by intraspinal injection of about 15 mg. of cocain, which is also usually effective in relieving the pain of sacrodynia, coccydynia, talalgia, etc., in the absence of organic lesions. Some of these neuralgias may be permanently cured by this procedure.—*Int. Med. Congress.*

Treatment of Mucomembranous Colitis.—At the Thirteenth International Medical Congress held recently at Paris, Mathieu recommended among other things, correction of the constipation that is usually present. For this purpose measures should be employed that do not increase the secretory irritation, the pains or the tendency to spasm. Castor-oil, large enemata and belladonna are especially useful. The first should be given in small doses in the morning before breakfast. Its employment should alternate with that of the large enemata, which should be given at low pressure, slowly and at a temperature of about 104 F. in amounts of from 3 to 5 pints. These enemata soothe the painful and spasmodic irritation of the intestines, induce evacuation of the material accumulated within it, and act as a mechanical antiseptic. They may consist of boiled water with a weak solution of sodium biborate or sodium salicylate, or a dilute solution of neutral ammonium ichthyolate. Care should be taken to avoid all agents likely to cause irritation of the bowel, such as drastic purgatives, astringent injections and massage in cases attended with marked hyperesthesia of the intestine or painful spasm of the colon. Food rich in vegetable detritus—green vegetables, stewed fruits, bread made from whole wheat, etc.—has sometimes been recommended, but in many cases this will not be tolerated, and it becomes necessary to prescribe a regimen that favors constipation while it lessens the irritation of the digestive mucous membrane. Enemata of oil are often useful, especially when combined with large enemata at low pressure. Belladonna is frequently successful, soothing pain and antagonizing the tendency to spasm. More rarely recourse may be had to opium and its derivatives. Hot local applications and hot baths have a useful sedative effect. Prolonged baths and large hot enemata form the basis of treatment at certain health resorts. It is often of advantage to administer sedatives and employ hydrotherapy for the effect on the general neurosis. Often the patients are debilitated and emaciated, and it is necessary to improve the nutrition and at the same time to prescribe a regimen more appropriate to the state of the digestive canal. Dysenteriform attacks should be treated with enemata of a weak solution of silver nitrate, and hemorrhage by preparations of hamamelis and large enemata at a temperature of 113 F.

MARINE-HOSPITAL NOTES.

The Reedy Island Quarantine Station was seriously damaged on September 22 by the steamship *Falladon Hall*, which ran into the signal tower of the station. Damages estimated at $15,000.

The marine hospital established this spring at Dutch Harbor, Alaska, for the care of sick and disabled seamen, will be closed for the winter, as all communication with that point is discontinued on account of ice. It will be opened again in the spring as soon as commercial communication can be had.

PLAGUE SITUATION IN GLASGOW.

A report from P. A. Surgeon Thomas, Sept. 18, 1900, records seven new cases, with two deaths, leaving twenty-one cases then under treatment. The new cases originated in old foci. One female employee at the hospital had a mild attack after being inoculated with Yersin's serum. Haffkine's prophylactic has not been used because of the reaction which follows. Under the use of Yersin's serum there has been great uniformity of symptoms, namely, slight soreness for a day or two and, at the end of eight days, usually some urticaria and, less commonly, joint pain. A local dermatitis has probably been due to the disinfectant used on the arm.

NO YELLOW FEVER THIS YEAR.

There has been no yellow fever in the United States this season, which has now so far advanced as to give assurance against an epidemic. It is a cause for special congratulation, particularly as it has prevailed in greater or less degree each of the last three preceding summers and falls. The chief points of danger to the United States have been Havana and Vera Cruz. The smaller cities on the Pacific Coast of Central America are many of them in wretched sanitary condition, and some of them are foci of yellow fever; and as these Pacific Coast ports are annually coming into closer commercial relations with the Atlantic ports, their importance from an epidemiological standpoint becomes magnified. It is gratifying to know that Guayaquil, in Equador, which has heretofore been notably afflicted with a pernicious fever, is being sewered and drained under an American civil engineer. There have been a few cases of yellow fever in one or two of the Central American fruit ports, but no epidemic. There have been a few cases of yellow fever at Tampico, Mexico, and also Merida, which is in close communication with its seaport, Progreso. While the number of infected places has been in a measure limited, in the beginning, of course, it was impossible to say how many there would be, and protective measures were taken early by the Marine-Hospital Service with regard to all yellow fever suspected seaports. Its operations may be considered to have begun in the winter, when Acting Assistant-Surgeon Hodgson was sent on a tour embracing all the Pacific and Atlantic Coast towns of Central America. His reports, showing the conditions, have been printed in the public health reports. At the beginning of the quarantine season seven acting assistant-surgeons were appointed in as many cities on the Atlantic Coast of Central America at what was termed the fruit ports, to put in operation measures which would enable fruit vessels to be admitted without detention at quarantine at this end (which detention is ruinous to their cargoes), even should a case or two of yellow fever be discovered at the port subsequent to their departure. These fruit port regulations have been rigidly enforced. At Vera Cruz an acting assistant-surgeon of the Marine-Hospital Service was detailed in the office of the United States consul and directed to sign bills of health with the consul. He also kept track of people who left Vera Cruz for the United States overland, and on the Texas border of Mexico, at three points, namely, Eagle Pass, Laredo and El Paso, officers of the Marine-Hospital Service have been and are still stationed to detect any passengers arriving from an infected area and to hold any such a sufficient length of time to cover the incubation period of the disease. Each station is provided with a detention camp and the records of the officers show that a number of persons were thus detained and held. In Cuba there has been no serious outbreak of yellow fever excepting in Havana. Here the Marine-Hospital Service has had a large force of officers and employees, with practically three establishments: one the quarantine station proper at Mariel, some twenty odd miles from Havana, for the reception of infected vessels; another, the disinfecting steamer *Sanator*, for the disinfection of ships leaving for the United States, and the third, a shore plant for the disinfection of baggage of passengers leaving, supplementary to the work of the *Sanator.* All are under the charge of an officer of the Marine-Hospital Service, who, by executive order, has been designated as chief quarantine officer of the Island of Cuba, and is detailed on the staff of General Wood, thus insuring harmony of action between the island military authority and the Marine-Hospital Service. The regulations have required all baggage from Cuba labeled either "inspected" or "disinfected," and since the outbreak of yellow fever in Havana all baggage from that port has been, and is still being, disinfected. The *Sanator*, a description of which was published in The Journal, under date of May 26, 1900, has proved a very efficient vessel. It is the finest vessel of its kind afloat.

Therapeutics.

Castor-Oil Made Palatable.

℞.	Saccharin	gr. xii		75
	Olei gaultheriæ	m. xx	1	33
	Alcoholis	ʒiv	16	
	Olei ricini	Oi	512	

M. Sig. One tablespoonful at bedtime.

The addition of saccharin, aromatic oil and alcohol is of use in rendering cod-liver oil palatable —*Canada Lancet.*

Creolin in Intestinal Fermentation.

℞.	Creolin	ʒiss	6	
	Alcoholis diluti	m. xv	1	
	Ext. glycyrrhizæ			
	Pulv. glycyrrhizæ, āā	ʒiss	6	
	Gum *tragacanthæ*	gr. xv	1	

M. Ft. pilulæ No. 100. Sig. One pill three times a day.
—*Ther. Gazette.*

Creolin is a dark alkaline fluid derived from coal-tar. It is an antiseptic devoid of irritating properties and is beneficial in treatment of many skin affections. David Walsh, in the *Therapist*, recommends it in the treatment of eczema:

℞.	Creolin	ʒi	4	
	Aquæ destil.	Oi	512	

M. Sig. Sponge the parts well two or three times a day, then apply the following dusting powder:

℞.	Europhen	gr. xxx	2	
	Zinci oxidi	ʒii	8	
	Amyli	℥i	32	

Chronic Eczema.

In chronic eczema Walsh uses the following ointment:

℞.	Creolin	ʒss	2	
	Hydrarg. ammoniati	gr. x		66
	Vaselini	℥i	32	

M. Sig. Rub well into the dried patches night and morning.

Eczema of the Upper Lip.

℞.	Thiol	gr. vii		5
	Acidi borici	gr. lxxv	5	
	Menthol	gr. ½		03
	Vaselini	℥i	32	

M. Sig. Apply morning and night.

Or,

℞.	Hydrargyri oxidi flavi	gr. x		66
	Vaselini	ʒvi	24	

M. Sig. At night wash the inflamed parts with a hot boric-acid solution, then touch them with spirits of camphor and apply the ointment.

During the day apply the following:

R.	Resorcin	gr. iii		2
	Acidi salicylici	gr. iv		25
	Zinci oxidi	gr. xlv	3	
	Lanolini	ʒiss	6	
	Vaselini	ʒiii	12	

M. Sig. Apply to the lip in the morning after cleansing with hot water. —Brocq.

Thiol is a product of hydrocarbons obtained in a similar manner to ichthyol. It is a brownish-black powder, soluble in water and alcohol. and is used extensively in the form of an ointment in the treatment of various skin diseases, and can be substituted for ichthyol.

For Recent Rheumatic Neuralgias..

℞.	Phenacetini	ʒi	4	
	Salol	gr. xl	2	66
	Caffeinæ citratæ	gr. v		33

M. Ft. cachets No. x. Sig. One every four or five hours.
—Domanski: *Zeo Manual of Ther.*

Typhoid Fever.

℞.	Acidi carbolici	mx		66
	Syr. aurantii	℥ss	16	
	Aquæ destil., q. s. ad	℥ii	64	

M. Sig. One teaspoonful every two hours. —M. A. Davis.

Intestinal Antiseptic.

℞.	Ichthoform	ʒiiss	10	

Ft. capsulæ No. xxx. Sig. One or two capsules three times a day.

Wilcox, in *Jour. Med. Science*, notes the study of the above preparation by Rabon and Galli-Valerio. It is a combination of ichthyol and formaldehyde. Experiments have shown it to hinder the development of bacterium coli, bacillus typhosus, bacillus icteroides, bacillus pyocyaneus and staphylococcus pyogenes aureus. It may be administered in doses of 30 to 45 grains per day.

Surgical Shock.

℞.	Digitalin	gr. 1/3		02
	Strychninæ arsenatis	gr. i		06
	Nuclein	gr. lx	4	
	Atropinæ sulphatis	gr. 1/10		006
	Syrupi tolutani	℥iv	128	

M. Sig. One teaspoonful repeated in an hour or two as necessary.

Martin, in the *Medicus*, states that he has obtained excellent results from the use of the above prescription. In connection with this treatment he uses hot applications to the feet and around the body and administers hot coffee freely.

Tests prove that any other portion of the gastrointestinal tract will absorb strychnin more rapidly than the stomach.
—*Med. Sum.*

Treatment of Hiccough.

℞.	Sodii bromidi			
	Potassii bromidi, āā	ʒi	4	
	Ammonii bromidi	ʒss	2	
	Syrupi simplicis, q. s. ad	℥iv	128	

M. Sig. One tablespoonful every hour until relieved.

H. Klein, of Chicago, states that he was successful in checking the hiccough in a patient, which had continued for four days, by the administration of two doses of the above preparation.

Traction of the Tongue in Hiccough.

J. Noir, in *British Med. Journal,* states that he has had success in treatment of hiccough by means of Laborde's method of applying vigorous traction to the tongue. In one case of six hours' duration, traction on the tongue for one and a half minutes arrested the trouble. He also reports another case of six days' duration in which a cure was effected in two minutes by the same method. —*Canadian Pract. and Review.*

Treatment of Obesity.

The *Canada Lancet* gives an outline of von Hosslin's treatment of obesity:

1. Nourish the patient with a purely albumin diet.
2. Increase metabolism by means of hydrotherapy, in the form of cold applications and sweat baths.
3. Administer thyroid extract.
4. Increase oxidation by means of bodily exercise.

Von Hosslin insists on carrying out the above lines of treatment in detail and reports that the omission of any part of it is likely to cause increase in the patient's weight.—*Med. Age.*

Milk Leg—Phlegmasia Dolens.

℞.	Ext. hamamelidis fluidi	℥i	32	
	Elixiris simplicis			
	Syrupi simplicis, āā	℥ss	16	

M. Sig. One to two teaspoonfuls three or four times a day.
—Preston: *Dominion Med. Monthly.*

Or,

℞.	Ext. belladonnæ fluidi	ʒi	4	
	Tinct. opii	℥i	32	
	Tinct. iodi	ʒi	4	
	Olei olivæ	℥viii	256	

M. Sig. Apply to the leg as warmly as can be borne and bandage. —*Smith.*

Ovarian Neuralgia.

℞.	Ext. belladonnæ	gr. iv		25
	Ext. stramonii	gr. v		30
	Lactophenin	ʒiss	6	

M. Ft. pilulæ No. xx. Sig. One pill three times a day.
—C. S. Martin.

Acute Bronchitis.

℞.	Vini ipecacuanhæ		
	Vini antimonii, āā	ʒii	8
	Glycerini	ʒiv	16
	Sol. ammoniæ acetatis	℥i	32
	Aquæ, q. s. ad	℥iii	96

M. Sig. One teaspoonful every three or four hours.

—*Med. Record.*

Rheumatic Joints.

℞.	Acidi salicylici	℥ss	16
	Olei terebinthinæ	℥ss	16
	Lanolini	℥i	32
	Adipis, q. s. ad	℥iii	96

M. Spread on lint and apply, cover with oil silk and soft bandage. —*Goillard's Med. Journal.*

Arthralgia (Rheumatic Pains in Joints).

℞.	Etheris		
	Alcoholis		
	Methyl salicylatis, āā	℥i	32
	Linimenti saponis, q. s. ad	Oi	512

M. Sig. As a liniment to be rubbed thoroughly into the joints.

Methyl salicylate is the active principle of wintergreen, of which oil of gaultheria contains 90 per cent.

—Encyclopedia of Med. and Surgery.

Gonorrheal Epididymitis.

℞.	Sodii salicylatis	ʒii	8
	Codeinæ sulphatis	gr. x	66
	Aquæ menthæ piperitæ	℥ii	64

M. Sig. One teaspoonful every three hours.

—*Interstate Med. Journal.*

Mastitis.

With Threatened Asbcess of Mammary Gland.

The *Annals of Gynecology* recommends the following:

℞.	Tinct. phytolaccæ dec	℥ss	16
	Aquæ	Oi	512

M. Sig. To be used as a dressing.

The water should be warmed before applied.

—*Med. Summary.*

To Prevent Abortion.

℞.	Ext. hydrastis fluidi		
	Ext. hamamelidis flu.		
	Ext. virburni prunifolii flu, āā	℥i	32
	Tinct. opii	ʒiss	6

M. Sig. One and a half teaspoonful in half glass of water three times a day. Bossi: *Med. Sum.*

Vermifuge Enema—Threadworms.

℞.	Ext. quassiæ fluidi	℥iss	48
	Aquæ	℥iiss	80

M. Sig. One tablespoonful with an equal quantity of warm water as an enema, to be retained as long as possible.

—Gould and Pyle.

Emetic for Children.

℞.	Pulv. ipecacuanhæ	gr. xx	1 33
	Aquæ (boiling)	ʒv	20

Pour on and strain and add:

	Honey of squills	℥ss	16

Sig. Give one teaspoonful every ten minutes until emesis is produced. —Gould and Pyle.

Pulmonary Emphysema.

℞.	Potassii iodidi	ʒi	4
	Aquæ, q. s. ad	℥ii	64

M. Sig. One teaspoonful after each meal in water, avoiding starches.

Give the above for twenty days in each month and during the remaining ten days the following:

℞.	Sodii arsenatis	ʒss	2
	Aquæ, q. s. ad	℥ii	64

M. Sig. One teaspoonful after each meal.

And every eighth day give gr. iss of aloes with the meal; light diet, plenty of milk, no alcohol nor tobacco.

—*Jour. de Méd de Paris.*

Arthritis.

℞.	Extracti hyoscyami	gr. xv	1
	Iodoformi	gr. xxx	2
	Sodii salicylatis	ʒiss	6
	Petrolati	ʒv	20

M. Sig. As an external application. —*Therapist.*

Erysipelas.

℞.	Iodoformi	℥i	32
	Creolin	℥ss	16
	Lanolini		
	Vaselini, āā	℥i	32

M. Ft. unguentum. Sig. Apply locally.

Mracek: *Texas Med. Jour.*

Palatable Effervescent Quinin.

℞.	Quininæ sulphatis	ʒi	4
	Acidi citrici	ʒiiss	10
	Syrupi aurantii corticis	m. xv	1
	Syrupi simplicis	m. xv	1
	Aquæ destil, q. s. ad	ʒv	20

M. Sig. Add ten or twenty drops to two ounces of water containing five or six grains of sodium bicarbonate.

Ten drops of the mixture contains about one grain of quinin.

—*Therapist.*

Medicolegal.

Temporary Mental Aberration No Defense.—In the case of Castlin vs. State, in which it affirms a conviction of murder, the Court of Criminal Appeals of Texas says that it knows of no such defense as temporary mental aberration, as produced by adequate causes and arising from surrounding circumstances. It says that if the party accused of the crime was insane, and did not know the nature and quality of his act, then he was not amenable to punishment. If he was not insane, and did know the nature and quality of the act, and did know right from wrong, at the time of the commission of the offense, then he would be amenable to the law.

Contradiction by Certificate.—In Smith vs. Standard Life and Accident Insurance Company of Detroit, an action brought to recover on an accident insurance policy, the Supreme Court of Minnesota holds that, in view of the testimony of an attending physician to the effect that the death of the insured was the result of an injury, it was error to exclude from the consideration of the jury a certificate of the cause of such death, signed by that physician, which, to some extent, contradicted his oral testimony, a proper foundation for the introduction of the certificate having been laid.

Notification of Imminence of Death Not Needed.—To render admissible in evidence an ante-mortem statement as to the cause of death, made by a person soon after receiving an injury from which he died, the Supreme Court of Idaho holds, in State vs. Yee Wee, that it is not necessary that it be first shown that the attending physician informed the maker of the statement before he made it that he was going to die. To make such a statement admissible it must be shown that it was made under the belief that death was impending, the imminence of death being apparent at the time. But it makes no difference, the court says, what influence induces the person, whose death is apparently imminent, to believe that he is about to die—whether from his own condition and feelings, or the advice of a physician. His statement as to the cause which brings about his death, made under such circumstances, is admissible in evidence.

Plea for a Medical Defense Union in the United States—The medical profession has many difficulties with which to contend, and one that undoubtedly weighs heavily upon its members is the disadvantages under which they labor in defending malpractice suits. An action of this description brought against a physician does not only affect him personally, but upon his victory or defeat depend to a certain extent the good name and financial position of his medical brethren at large. This being so, it is reasonable to expect that every effort will be put forth by the accused to win his suit, as he is as a matter of fact fighting in the interests of the entire medical profession. But unfortunately it often happens that the money necessary to employ the best measures to insure success is lacking, and that consequently irreparable injury is done to physicians throughout the country. Dr. Donald B. Pritchard, writing in the *St. Paul Medical Journal*, July, proposes that a medical defense union, formed on the lines of that now in existence in England, should be established in this country. His idea is to organize a mutual association, the membership of which should be confined to those who belong to the state or some properly organized medical society. In order that the organization might be of the highest standing, it would not be proper to defend one guilty of gross malpractice. That this might be accomplished, every case should be submitted to a standing committee, who after a thorough examination would decide whether or not it would be proper for the association to defend. If the decision is not satisfactory to the member, then a board of arbitration should decide the matter. When the association undertakes the defense, the member involved should be pledged to be absolutely guided by it in the conduct of the case, and that it should not pay any part of the verdict, simply incurring liability for all expenses of the trial. Dr. Pritchard says that he has communicated with a number of well-known lawyers, and that they all say that there is no legal bar to such an association, and that there is no more likelihood of juries being adversely influenced than in the case of any other corporation. The suggestion is at least worthy of consideration, and the good work done by the English Medical Defense Union should act as encouragement for the establishment of a similar organization in this country.—*New York Med. Record*, Sept. 15.

[Would it not be more economical, and far better, to have each state society take up this as one of its duties to its members than to organize an association especially for the purpose as suggested above? Ed.]

Opinion of Medical Expert as to Cause of Death.—The Supreme Court of South Carolina says, in the case of State vs. Foote, that it is very common practice to allow a medical expert to state his opinion as to the cause of death, based on his own personal observation. And it holds that, while it is quite proper that the jury, as far as practicable, should be informed as to the facts or circumstances on which the opinion is based, it is not error to permit such expert opinion when it appears to be based on the witness' personal observation. If the objecting party desires, he may, on cross-examination, it explains, develop all the circumstances inducing the opinion which are capable of reproduction to the jury, and thus test the value of the opinion. But a hypothetical statement of facts as the basis for the opinion of a medical expert as to the cause of death, the court holds, is not necessary when the opinion is based on the personal observation or examination of the witness. Then, exception was taken, in this case, a prosecution for murder, to the reason which the trial judge assigned for refusing to grant a new trial for insufficiency of evidence, namely, "that, if the doctor had stated that the death was not caused by the wound, the jury had the right to disregard the testimony and find that the wound caused the death of the deceased." Still this, the court holds, did not constitute error of law. A circuit judge, it adds, is not bound to set aside a verdict, even if the jury in reaching its conclusion may disregard the opinion of an expert.

Witness Not Allowed to Exhibit His Own Injury.—In the case of the Grand Lodge, Brotherhood of Railroad Trainmen, vs. Randolph, certain medical witnesses for Randolph testified, in effect, that a fractured leg never gets well, and that a person who has suffered such a fracture will be disabled from performing train service on railroads. The fraternal benefit society named sought to dispute this testimony by the experience of one of its witnesses, and by the exhibition of his leg to the jury. This witness was permitted to testify that his ankle had been crushed and injured as seriously as Randolph's leg had been, and that it had so far healed that he was still able to perform his duties in the train service of the railroad company. But he was not allowed to exhibit his injured ankle to the jury. In this the Supreme Court of Illinois holds that there was no error. It says that it is obvious that the point at issue was the extent of the plaintiff's (Randolph's), and not of the witness', injuries, and that to have permitted the close scrutiny requested into the nature and extent of the injury to the witness' ankle would have raised a collateral issue, and diverted the minds of the jury from the issues submitted to them. And the supreme court affirms a judgment holding that Randolph was permanently disabled by being thrown from a locomotive engine and having the bones of his right leg broken, so as to be entitled to recover the amount stipulated in the constitution of the society for a total permanent disability.

County Association Entitled to Fines.—Section 153 of chapter 398 of the laws of New York of 1895 provides that "when any prosecution under this article (for practicing medicine without lawful registration as a physician) is made on the complaint of any incorporated medical society of the state, or any county medical society entitled to representation in a state society, the fines, when collected, shall be paid to the society making the complaint," etc. In the case of the New York County Medical Association vs. the City of New York, the right of the former to such a fine, which had been collected in a case where it had made complaint, was tested. The association showed that it had been since 1890 a duly incorporated society of the state of New York, entitled to representation in the New York State Medical Association, which was incorporated in 1884, and that the state association is the accredited society in the national body of physicians known as The American Medical Association. Such being the case, the Supreme Court of New York, New York County, holds that the New York County Medical Association meets all the requirements of the act of 1895 above mentioned, and that there appears to be no solid legal reason why it should be excluded from the benefit of its provisions. "Association" and "society," the court holds, are convertible terms. To this it adds that the statute was not enacted for the benefit of any particular corporation, but for "any incorporated medical society" entitled to representation in the state society, and that it was passed to protect the public from illegal medical practitioners, and that the more numerous the informers and rigid the prosecution the better for the public and the medical profession. Nor does the court yield assent to the argument that the act was for the exclusive benefit of three societies—the regular, homeopathic and eclectic—because they were named in certain prior acts, and possess certain rights which the New York County Medical Association does not possess.

Societies.

Coming Meetings.

New York State Medical Association, New York City, Oct. 16-18.

American Public Health Association, Indianapolis, Ind., Oct. 22-26.

Medical Society of Virginia, Charlottesville, Oct. 23.

Southern Surgical and Gynecological Association, Atlanta, Ga., Nov. 13-15.

Oklahoma Territory Medical Society, Oklahoma City, Nov. 15.

The Tri-State Medical Association of Mississippi, Arkansas and Tennessee, Memphis, Nov. 13-15.

The Seneca Falls (N. Y.) Medical Association was organized September 26, with the following officers: Dr. Frank M. Severson, president; Dr. Frederick W. Lester, vice-president; Dr. Hubert Schoonmaker, secretary and treasurer.

The Malden (Mass.) Medical Society, at its annual meeting, September 18, elected the following officers: Dr. Charles E. Prior, president; Dr. Charles D. McCarthy, vice-president; Dr. Frank W. Plummer, treasurer, and Dr. William J. Weeks, secretary.

The Aberdeen (S. D.) District Medical Society, at its annual meeting at Aberdeen, September 22, elected the following officers for the ensuing year: Dr. William Edwards, Bowdle, president; Dr. Frank Miller, Aberdeen, vice-president; Dr. George E. Countryman, Aberdeen, secretary and treasurer.

The Bourbon County (Ky.) Medical Society was organized in Paris, September 20, and the following officers were elected: Dr. Washington Fithian, Paris, president; Dr. William V. Huffman, Millersburg, vice-president; Dr. Frank L. Lapsley, Paris, secretary, and Dr. Silas Evans, Paris, treasurer.

The Baltimore County (Md.) Medical Association held its regular meeting September 20 at Towson. Dr. William S. Gardner, Baltimore, read a paper on "Uterine Hemorrhage," and cases were reported by Drs. William P. E. Wyse, Pikesville, Charles G. Hill and L. Gibbons Smart, Baltimore; H. Burton Stevenson, Rider; R. Percy Smith, Sunny Brook, and Jackson Piper, Baltimore.

The Franklin County (Vt.) Medical Society held its semi-annual session at Swanton, September 27. An address was delivered by the vice-president, Dr. Edmund T. Brown, Montgomery Center. Dr. Clarence E. Allen, Swanton, read a paper on "Gonorrhea, Its Influence on the Uterus and Its Appendages." Papers were also read by Prof. John B. Wheeler, Burlington, and Dr. Harlow E. Dunton, Swanton.

The St. Joseph County (Ind.) Medical Society met in South Bend, September 25. Dr. John B. Berteling, South Bend, made a report of the meeting of the Kankakee Valley District Medical Society at Hammond; Dr. George W. Van Benschoten, South Bend, read a paper on "The Relation of General Health to the Eye and Its Diseases," and Drs. Fred P. Eastman, Charles Stoltz and others reported cases.

The North Central Ohio Medical Society held its seventy-sixth quarterly session at Mansfield, September 28. Papers were read by Dr. Feorus F. Lawrence, Columbus, on "Pelvic Suppuration"; Dr. James B. Herrick, Chicago, on "Some Points in the Diagnosis of Gall-Stones"; Dr. William D. Hamilton, Columbus, on "The Dangers of Delay in Cases Having Surgical Possibilities"; Dr. Albert F. Hyde, Shelby, "Brief Talks on Various Subjects," and Dr. Adam H. McCullough, Mansfield, on "Hay Fever."

The Golden Belt (Kan.) Medical Society met at Enterprise, October 4, President Dr. James R. Crawford, Salina, in the chair. Papers were read by Dr. Wilber E. Fowler, Brookville, on "A Scientific Poultice;" Dr. Joseph F. Brewer, Minneapolis, on "Etiology and Treatment of Some of the Diseases of the Stomach;" Dr. William Frick, Kansas City, Mo., "More Complications of Gonorrhea"; Dr. Henry M. O'Donnell, Ellsworth, "X-Ray and Its Advantages in Country Practice," and Dr. Charles Hewitt, Wakefield, on "Practice of Medicine in an Early Day." Clinical cases were also reported by other members of the society.

The Saratoga County (N. Y.) Medical Association was organized September 28 at Saratoga Springs, as a branch of the New York State Medical Association. Dr. Tabor B. Reynolds, Saratoga Springs, was made temporary chairman and Dr. Fred J. Ressegine, Saratoga Springs, temporary secretary. Dr. Frederick Holme Wiggin, New York City, stated the objects of the New York State Medical Association and the benefits to be derived from affiliated county organizations. The following officers were elected: Dr. Frank A. Sherman, Ballston Spa, president; Dr. George F. Comstock, Saratoga Springs, vice-president; Dr. John F. Humphrey, Saratoga Springs, secretary, and Dr. William E. Swan, Saratoga Springs, treasurer. It was decided to adopt the code of ethics of The American Medical Association and to request the council of the State Medical Association to accept the Saratoga County Association as an affiliated branch.

The Idaho State Medical Society held its eighth annual meeting at Boisé October 4 and 5, conjointly with the autumnal semi-annual meeting of the Southern Idaho Medical Association. President Dr. Ed E. Maxey, Caldwell, in the chair. Papers were presented by Dr. Hubert A. Castle, Pocatello, on "Interutero-placentary Hemorrhage;" Dr. Lucien P. McCalla, Boisé, on "Hydraulic Pressure a Means to Open the Common Duct, Which Remained Closed After Removal of Impacted Gall-Stone;" Dr. R. C. Coffey, Portland, Ore., on "A Method of Retaining a Fixed Dressing for Fracture of the Humerus;" Dr. C. E. Worthington, Mullan, on "Reciprocity Between State Medical Examining and Licensing Boards;" Dr. Harry D. Niles, Salt Lake City, Utah, on "The General Practitioner and the Specialist;" Hon. E. J. Dockery, Boisé, on "Physicians as Expert Witnesses;" Dr. Edwin F. Guyon, Montpelier, on "The Proper Method of Using the Sound in Cases of Urethral Stricture;" Dr. Carl Schulin, Helena, Mont., on "Homatropin in the Refraction Room;" Dr. Warren D. Springer, Boisé, on "Position in After-Treatment in Abdominal Operations"; Dr. Michael A. Hughes, Salt Lake City, Utah, "Report of Some Cases;" Dr. Alexander Hunter, Kendrick, "Report of a Case of Tetany," and Dr. Ed E. Maxey, Caldwell, retiring president, delivered an address on "The Clinical Importance of Examining the Blood."

The Association of Assistant Physicians of Hospitals for the Insane held its eighth annual session at the Central Indiana Hospital for the Insane, Indianapolis, September 26, 27 and 28. Papers were read by Dr. W. A. McCorn, on "Genesis of Hallucinations"; Dr. George Boody, Independence, Ia., on 'Katatonia"; Dr. Fred L. Pettijohn, Indianapolis, on "Asexualization as a Means of Prevention"; Dr. Vaclav Podstata, Hospital, Ill., and August F. Lemke, Chicago, on "Delirium in its Various Forms, and Special Reference to the Differential Diagnosis and Prognosis"; Dr. Emmet F. Enos, Hospital, Ill., on "A Case of Punctured Wound of the Brain"; Dr. William MacLake, Ann Arbor, Mich., "Report of a Case of Diabetes, with Remarks on Treatment"; Dr. John B. Briggs, Jr., Baltimore, on "The Systematic Relations of Bacteria and the Infectious Diseases"; Dr. Theophile Klingman, Ann Arbor, Mich., on "The Pathology of Incipient Insanity"; Dr. Albert M. Barrett, Independence, Ia., on "Pathology," and Dr. Irwin H. Neff, Pontiac, Mich., on "The Use of Hypnotics and Sedatives in the Insane." The last day of the session was occupied by the discussion of the developments in the clinical study of psychiatry. The following officers were elected: Dr. Fred L. Pettijohn, Indianapolis, president; Dr. Vaclav Podstata, Hospital, Ill., vice-president; and Dr. Irwin H. Neff, Pontiac, Mich., secretary and treasurer.

San Francisco County Medical Society.

Regular Monthly Meeting, Sept. 18, 1900.

President Elmer E. Kelly, M.D., in the chair.

ETIOLOGY AND SYMPTOMATOLOGY OF RICKETS.

Dr. William Fitch Cheney presented a paper on this subject. It affects not only nutrition of bone, but of all the soft tissues of the body. The most important causative factor is deficiency of fat in the food. A loss of proteids is also a causative factor, for if fat and proteids are both deficient, rickets is more apt to occur than if fat alone is deficient. The probability of the disease is greater also if an excess of carbohydrates is present with a deficiency of fat, and it is for this reason that rickets is so often seen to occur in infants fed on condensed milk. Another important factor is poor hygienic surroundings.

The sweating of the head so often seen in infants while sleeping at night is a symptom of great importance, and should always make the practitioner suspicious of this disease. Restlessness at night, constipation and delayed or irregular dentition are also important symptoms. The enlargement of the epiphyses of the long bones, the rosary, which is very prominent in some rachitic children, should be looked for. The delay in closure of the anterior fontanelle and the square box shaped head are evidences of the development of rickets. The children usually complain of tenderness of the whole body, dislike being carried, and sometimes cry out in being lifted or handled. Flabby muscles and ligaments are frequently overlooked, but are often an evidence of rickets in children slow in beginning to walk. The protuberant abdomen is seen early. There is a tendency to gastrointestinal bronchopulmonary catarrh. There are many symptoms referable to the nervous system. Rickets is one of the great predisposing causes to convulsions, and should always be looked for. Laryngismus stridulus is usually due to this affection, and the tendency on the part of an infant to hold its breath, even until it is black in the face, usually occurs in rachitic children. By these symptoms one can recognize this disease before deformities of bone occur, when it may be possible to prevent them.

THE ETIOLOGY AND DEVELOPMENT OF DEFORMITIES OF THE SKELETON IN RICKETS.

Dr. H. M. Sherman confined his remarks to a consideration of those types of the disease ordinarily seen in California, excluding the severer forms sometimes seen in Eastern and European clinics. That moderately severe cases are seen here is evidenced from the photographs which he presented. Craniotabes is very rare here. It is due to deficient ossification, plus the pressure of the head on the pillow or on the bed; gravity then is one cause of the thin bone and the flattened occiput, the skull not being strong enough to bear its own weight, and that of the contained brain. Deformities of the skull are common; most frequent is the somewhat flattened vertex, with the depression at the anterior fontanelle; next is the flattened occiput, due to prolonged recumbency. In cases of cranial asymmetry he suspects rachitis. Deformities of the thorax are due to muscular force on one side and atmospheric pressure on the other, together with gravity. If the child has rickets early and spends much time lying on its back it would get the broadening of the thorax and the lessening of its depth. If the rickets came a little later, when the child was already sitting or standing, the atmospheric pressure would flatten the ribs anterior to the angle, and by so doing would throw the anterior end forward, carrying the costal cartilages. Whether the sternum were prominent or depressed would depend on the strength of the costal cartilages. If strong enough, the sternum would be carried forward with them; if weak, the sternum would be depressed by atmospheric pressure. The transthoracic groove—Harrison's groove—marks on the outside the attachment of the diaphragm on the inside. As this muscle pulls, the resistance offered by the ribs is less than that offered by the distended abdomen, and instead of the abdominal contents being forced down, the ribs are drawn in; the lowest ribs are however, tilted outward by the distended abdomen, and this gives them their flare, and makes the lower boundary of the Harrison groove. Ordinarily the deformities of the thorax are symmetrical. He regards scoliosis as a deformity of the rachitic thorax. He has never seen a scoliotic that did not show obvious marks of a rachitis, so that the real cause of the deformity of youth and of adolescence must be looked for in the dietary of infancy. It is not common to see deformities of the arms or forearms apart from enlargements of the wrist epiphyses, and some slight increase in the natural curves of the bone. The deformities of the trunk and upper extremities are not of great surgical interest, as they usually do not require correction by surgical methods. The deformities of the lower limbs often require correction, because they are frequently extreme, and because they interfere with the function of the part.

Coxa vara, or the bending downward of the neck of the femur, is probably often a manifestation of late rickets. The natural curve or spring of the shaft of the femur is frequently increased in rachitic children. If the child has been walking, the body-weight is contributed to the deformity, but it exists in children that have not walked as a result of mechanical action. The curve of the femur may be part of the general curve which reaches from the hip to the foot, the leg bones being curved on about the same radius. This deformity is the common bow-legs. In these cases the knee-joint contributes to the deformity, the relative length of the condyles being disturbed, so that the outer is too long. This increased length is probably because of over-growth of the outer condyle, due to the rachitic congestion of the bone and lack of pressure, for, where the body weight is on such a leg, the force on the convex side of the leg is plainly tensile, and not compressive. Furthermore, the ligaments at the knee in these cases are always lax, so that there is actual separation between the outer femoral condyle, and the outer tibial tuberosity, when the child stands. This condition at the knee is genuvarum. The reverse condition at the knee, or genuvalgum (knock-knees may occur, but it is never part of the general curve, though it may be one of the many deformities. The rachitic child always has a tendency to flat-foot, from structural weakness of muscles and ligaments, but this tendency is increased by the outward curve of the leg bone, their shape tending to transmit an inward thrust to the tarsus, and so to roll it over inward. Serious cases of rigid flat-foot combined with slight excurvation of the leg bones in their lower portion are not uncommon. The author concludes that: 1. Structural weakness in the bone is the essential cause of the skeletal deformities in rickets. 2. The active deforming force is either muscular action, or too great superincumbent weight, or pressure by some external object, or gravity. 3. The bone yields always in the direction of the greater force, and this direction is often determined by the natural shape of the bone, the tendency being to increase normal curves. 4. In some cases where there is no other reinforcing bone, there is a hypertrophy of the deformed bone. to antagonize the deforming force. 5. Symmetrical deformities are characterisitc of rachitis, the similarity of structure of the two limbs, and the similarity of the mechanical conditions in them, tending to produce similar resulting deformities.

TREATMENT OF DEFORMITIES DUE TO RACHITIS.

Dr. I. J. Hunkin presented a paper on the above subject. For deformities of the skull, the ribs and the pelvis surgery offers but little remedy, and these are the forms fortunately rarely seen with us. Under proper care, also, nature proves often fully competent to attend to most of the deformities of the upper extremities, and to a large extent also to the long outward curves of the femora. In the vast majority of cases the surgery of rachitic deformities has relation to changes in the tibia. Surgically, there are three plans of treatment: expectant, mechanical and operative. The expectant method relies largely on the efforts of nature, aided, of course, by the hygienic and medical control of the case. This usually succeeds in mild, and often in medium, degrees of deformity, when the patient is 2 years, and perhaps 3 years of age. The long curves of the femora and humeri are especially amenable to treatment in this manner. The mechanical treatment has two divisions: ambulatory and recumbent. The ambulatory, meaning the attempt to correct the deformity by the wearing of splints and braces during locomotion, is to be condemned. There is no doubt that any of these deformities can be corrected by mechanical applications in the hands of the surgeon in young children, and perhaps in older children, if the patient is kept recumbent during treatment, but even here it is a waste of time and energy. If the child is to be confined to bed during the treatment it is far better that the proper operative procedure should be adopted, the deformity corrected at once, after which simple retentive splints are alone necessary. The patient needs no special care and in six or eight weeks is up and about and in as good condition as he would be in as many months with apparatus alone. There are three operative procedures: osteoclasis, osteotomy and osteoectomy. Osteoclasis is the simplest operation and most generally applicable in the great majority of cases, especially where the deformity involves most of the shaft of the bone, or where the summit of the curve is not close to a joint. The author uses for this purpose of the osteoclast of Grattan. While it is generally taught that the force should be applied at the summit of the greatest concavity, he usually prefers the point of the greatest convexity, believing that he gets earlier reposition, and less danger of twisting the bone before the blow is delivered by the instrument. Osteotomy is performed with the regular osteotome. The leg being supported on a sand-bag, the incision is made with the osteotome, the edge being held perpendicularly to the leg and the division being made by forcing the blade through the soft tissues with the hand, or preferably with a sharp tap of the mallet. When the bone is reached the blade is rotated in the tissues until the cutting edge is across the bone, into which it is driven to the desired depth. No attempt is made to cut through the whole bone, for division of 3/5 of the circumference allows ready reposition of the deformity. The osteotome being removed, the proper correction is made manually. The incision receives no attention, except being covered with a clean pad. The position secured is maintained with a plaster-of-paris splint. Union is usually prompt and satisfactory. Osteoectomy, or osteostomy, is performed through an open incision and consists in removing a wedge of bone from the apex of the deformity, the base of the wedge being from the convex surface. This wedge is resected with the chisel, or the osteotome, and the mallet. No bone suture is necessary. The periosteum and skin are closed separately and a plaster-of-paris splint applied. The union after all these operations is generally prompt and relapse is very infrequent. For deformities of the shaft at any point, when the apex of the curve is 5 cm. or more from the joint, osteoclasis is the operation par excellence in the great majority of cases. Close to the joint line osteotomy is always to be preferred.

DIAGNOSIS AND TREATMENT OF RACHITIS.

Dr. E. G. Frisbie called attention to the fact that scorbutus and rickets may co-exist, and that the diagnosis of the latter can be made by the absence of the intense pain in the region above the epiphyses, and if teeth are present, by the absence of ulcerative stomatitis. From acute rheumatism rachitis may be differentiated by reason of the less acute pain and absence of any considerable fever and joint swelling; from Pott's disease, by the longer spinal curvature and less rigidity of the spine, although this differentiation may in some cases be very difficult. From osteomalacia the differential diagnosis is impossible, but happily this disease is so rare in this region that it may practically be excluded. The constitutional treatment of rickets should consist of hygienic, dietetic and medicinal measures, Since by far the larger number of rachitic patients are among the poor, it becomes of the first importance to see that the hygienic conditions are improved. The dietetic management is important both as a prophylactic and a curative measure, and in the nursing infant this should begin with attention to the diet of the mother. Artificially-fed infants should be fed on a modified cows' milk. For older children, the author advises an abundance of fresh butter spread upon bread, and the continuance of the use of a larger proportion of milk, as well as beef juice and meat broths.

The medicinal treatment consists of the careful regulation of the bowels and the use of cod-liver oil, which the author considers the most generally useful drug. Phosphorus he also considers beneficial in doses of 1/200 to 1/100 of a grain for children of 2 to 6 years, and smaller doses to younger children. For the anemia accompanying the disease, the syrup of the iodid of iron is the preparation of his choice.

American Electrotherapeutic Association.

Tenth Annual Meeting, New York City, September 25-27, 1900.

Dr. Walter H. White, Boston, in the chair.

ELECTRIC LIGHT AS A THERAPEUTIC AGENT.

Dr. Charles O. Files, Portland, Me., said that the electric light acted by impairing the vitality of the bacilli, partly by the action of the light per se, and in part by the incidental generation of ozone. The treatment was preferably given in connection with an arc-light cabinet. In all of the incipient cases of tuberculosis in which he had tried this method, there had been improvement.

Dr. Wolff Freudenthal, New York City, read a paper on "Electric Light; Its Physiological Action and Therapeutic Value in Tuberculosis of the Throat and Lungs." He discussed the evidence at hand concerning the germicidal action of light, and reported several cases in illustration of what might be accomplished by the electric-light treatment.

A REPORT ON THE PRACTICAL VALUE OF CROTTE'S METHOD OF TREATING CONSUMPTION.

Dr. Egbert LeFevre, New York City, presented this report. It was founded on a three-months trial of the method in St. Luke's Hospital with the object of fairly testing the claims of the inventor. To that end careful records were kept of both the local and general condition of all the patients taking the treatment both before and after. Not one of the cases in the first stage of the disease showed any abatement of the local process, and in two of these patients the change for the worse was so apparent after two weeks that the treatment was discontinued. Three of this series showed some temporary improvement, but no more than they had exhibited during the stay in the hospital under hygienic and dietetic treatment. A case of tuberculosis of the glands was made so much worse by the irritation set up by the iodin and by the electrical application, that the glands broke down, necessitating an operation. Coincident with this breaking down of the glands there was a rapid increase of the disease in the lungs and the case ran a very rapid course. In the advanced cases the treatment apparently did harm. The treatment consisted in giving the patients static electricity while seated on an insulated stool. In addition to this a towel moistened with a solution of formalin was placed on the chest, and a solution of iodin in spirits of camphor was painted over the chest at the site of the pulmonary disease. When the pathologist of the hospital reported that he was unable to find, after examination of the patient's secretions, any evidence of absorption of either iodin or formalin, Mr. Crotte retorted that he was not competent to carry on such an investigation. To be perfectly fair, Crotte was then allowed to have this part of the work done by his own chemist, but the latter was also unable to find evidence in support of Crotte's contention and boasted claim that these substances were driven into the patient's system by cataphoresis. Crotte's claim having thus fallen to the ground, and the clinical investigation having demonstrated the worthlessness of this method of treatment, it was abandoned

Dr. William J. Morton, New York City, said he had gone to St. Luke's Hospital to find out the Crotte method, and had been unfavorably impressed by what he had seen there. A patient was being treated at the time with static electricity obtained from a modern American machine. On the other side of the room stood a French ebonite plate machine, from which he could elicit no sparks, yet he was informed that this French machine was their main reliance in giving the Crotte treatment, the other machine having "no cataphoric power!" Dr. Morton went on to say that he was not aware that vapors could be introduced into the body by cataphoresis, and if the Crotte method were to receive any further attention from the scientific physician it was essential that a clear understanding should be had of the electrophysics on which it is based. At his suggestion, the association appointed Drs. William J. Morton, Robert Newman and Emil Heuel, New York City, a committee to settle definitely this vital question.

GENERAL WORK OF A GYNECOLOGIST.

Dr. Fred H. Morse, Melrose, Mass., read a paper on the above subject. He said electricity was invaluable in making a diagnosis of deep-seated pus formations, and electrical treatment in his hands had been most satisfactory in cases of metritis, endometritis, subinvolution, displacements, ovarian neuralgia and painful menstruation. He preferred to use large electrodes made of asbestos cloth, and looked on an amperemeter and a good high-tension faradic battery as necessary parts of the office armamentarium of the successful physician.

THE MORTON WAVE CURRENT.

Dr. W. B. Snow, Atlanta, Ga., said it was the only current of very high potential that could be passed through the body with little or no discomfort, and the fact that it penetrates every part of the body gives it a unique position as a therapeutic agent. This current when applied to the human subject produces: 1, a marked lowering of arterial tension; 2, a reduction in the frequency of the heart's action, with an increase in the volume of the pulse; 3, increased oxidation and metabolism; 4, a sense of drowsiness, and 5, a sense of fatigue if the treatment is unduly prolonged. It was most important to repeat the application, in cases of neuralgia before the pain has returned with an degree of severity. For sprains and bruises it is unexcelled.

Dr. William J. Morton, New York City, also made some remarks on this current. He believes that it embodies all that is to be obtained from the static machine in current form. The treatment is more agreeable than with the static induced current, it is just as easily localized, and its action is more widely distributed in the body. It produces marked analgesic effects.

Dr. C. R. Dickson, Toronto, Dr. Lucy Hall-Brown, Brooklyn; Dr. Margaret A. Cleaves, New York City, and Dr. Walter H. White, Boston, all spoke favorably of the action of this current in neurasthenia, neuralgias, neuritis, rheumatoid arthritis and other diseased conditions.

THE CAUSES OF SOME CASES OF NEURASTHENIA AND THEIR TREATMENT.

Dr. Francis B. Bishop, Washington, D. C., read this paper. As a result of his studies of the urine in cases of neurasthenia he had learned that there was quite commonly a diminution in the urea and an increase in the phosphates. The object of treatment, he reasoned, should be to promote such changes as result in the formation and elimination of a larger quantity of urea. Muscular exercise is good, but as these patients are already fatigued, he selected electricity as the agent best suited for his purpose. The treatment begins with mild galvanization of the brain and spinal cord, and is followed by general faradization and finally by exposure of the whole body to the static breeze by the use of an apparatus which he calls an ozone cage. This last application he finds particularly soothing and pleasant to these patients.

X-RAY PHOTOGRAPHY.

Dr. E. R. Corson, Savannah, Ga., presented a paper on this subject. He insisted that good skiagraphs of bones should give good detail in the bones themselves. He recommends using a coil giving only an 8 or 10-inch spark, and using all the current the X-ray tube can stand. All his negatives are intensified until they are very black and dense.

ELECTRICITY IN BRAIN FAILURES.

Dr. D. R. Brower, Chicago, read a paper on the above subject. He finds that these cases are very often associated with a dilated stomach, and here he strongly advises the daily use of intragastric galvanization, using Einhorn's electrode. In addition he resorts to galvanization of the brain, using a current of one or two milliamperes for two minutes. This is followed by transverse and bulbar galvanization, and lastly by static insulation.

ELECTROTHERAPY OF INSANITY.

Dr. Alfred T. Livingston, Jamestown, N. Y., described his very favorable experience with the use of electricity in cases of melancholia—a method almost unknown to those who have most to do with insanity. The treatment is founded on the theory that insanity is largely dependent, in the first instance, on circulatory changes in the brain. A current of 10 to 15 milliamperes is used on the lower pair of sympathetic cervical ganglia, one of 8 or 10 milliamperes on the second pair, and one of 5 or 8 milliamperes on the upper pair, the electrodes being carefully slid along so as not to produce a break in the current.

The following officers were elected: President Dr. Ernest Wende, Buffalo; vice-presidents, Dr. Fred H. Morse, Melrose, Mass., and Dr. D. R. Brower, Chicago; secretary, Dr. George E. Bill, Harrisburg; treasurer, Dr. R. J. Nunn, Savannah; chairman of executive committee, Francis B. Bishop, Washington. The next annual meeting will be held in Buffalo, beginning the first Tuesday in September, 1901.

California Academy of Medicine.

Monthly Meeting, September 25, 1900.

ECTOPIC PREGNANCY.

Dr. J. Henry Barbat exhibited both Fallopian tubes removed from a patient who was taken, twenty-four hours previous to the operation, with severe pain in the abdomen, accompanied by pallor and faintness. She had missed her menses the month before, after having been regular for four years, and had felt that something was wrong with her, as she had some pain in the pelvis, and thought she might be pregnant. A diagnosis of ectopic pregnancy was made and operated on immediately. When the abdomen was opened fully a liter of blood poured out, containing a number of clots. The left tube was lifted out of the belly and found to contain a large quantity of blood, its fimbriated extremity being completely occluded. It was removed, leaving the ovary, which was normal. The right tube was then lifted out and found ruptured near the distal end. It was removed and, on opening it, a fetus of about three weeks was discovered. The left tube contained fluid blood and a decidua which formed a closed sac at both extremities of the tube.

He describes a second case of tubal pregnancy in which the fetus was not more than two weeks old. The menses had been delayed several days, and when they appeared, kept drizzling longer than usual. The patient also noticed a sharp pain in the pelvis on the right side, but otherwise felt perfectly well. A diagnosis of ectopic pregnancy was made and the tube removed, which was not yet ruptured, but was leaking blood from its fimbriated end. A peculiar coincidence is that the patient's sister died a few years ago from ectopic pregnancy.

A CASE OF LEPROSY.

Dr. D. W. Montgomery reported a case of a white woman who contracted leprosy in San Francisco. This woman presented herself on Nov. 14, 1899. She was 50 years of age and was suffering from paralysis agitans. Her father still lived and was 80 years of age. Her mother had died three years previously at the age of 75. On coming from Ireland to San Francisco, in 1870, she married an Irishman, who had lived in Ireland, Boston and San Francisco, and nowhere else. He had died in 1882 from hemorrhage of the stomach. Patient said her husband had never had any blotches on his skin. She had had two children and one miscarriage. There was a group of smooth, glistening, firm, prominent tubercles on the left cheek, and there was a tubercle near the vermilion border of the upper lip, to the left of the philtrum. There was one tubercle on the nose tip, and the lobes of the ears were infiltrated and nodular, and there were leucoplasia-like patches on the roof of the mouth. There were tubercles or red maculæ scattered over the skin of the upper and fore arms.

There was no demonstrable enlargement or tenderness of the right ulnar or median nerves, but the left ulnar nerve was slightly enlarged and very sensitive to touch. The skin of the backs of the hands and, to a slight extent, of the left fingers was swollen, smooth, waxy-looking, and had tubercles scattered in it. The sensations of touch and pain were normal in both upper extremities. Both legs were swollen, with red blotches and tubercles in the skin. Microscopic examination was made of the juice squeezed from one of the tubercles, and a large number of lepra bacilli were found.

The woman was said to have subsequently died of pulmonary tuberculosis.

This is the second case of leprosy in a Caucasian that he had ever seen during a practice of over fourteen years in San Francisco. He assumes from this that while the danger of the spread of leprosy in California among the whites is not pressing, it must be remembered that it is a disease that slowly and tenaciously invades a country, the invasion to become appreciable often requires several generations. In the fulness of time, when many lepra centers are established, the invasion seems to be more rapid.

Dr. J. Henry Barbat thought there was some possibility of the nodes on the skin of this patient being tuberculous, as the patient had died of pulmonary tuberculosis. The similarity of the lepra bacillus to the bacillus of tuberculosis might account for the apparent finding of the lepra bacillus in the tubercles of this patient.

Dr. Philip King Brown said that the bacilli being [illegible] the skin in large numbers would, in itself, be diagnostic of leprosy. In postmortem examinations he [illegible] large numbers of the bacilli [illegible] through the skin [illegible] the nodules.

Dr. Montgomery said that [illegible] leprosy die of tuberculosis. He [illegible] tiating between the lepra [illegible] sis. The bacillus tuberculosis [illegible] of lepra, which, by the [illegible] forms.

Cleveland Medical Society.

Regular Meeting, September 14.

President Dr. Henry S. Upson in the chair.

Dr. P. M. Foshay introduced a resolution, which was unanimously adopted, requesting the State Board of Medical Registration and Examination to raise the standard which it has prescribed for those wishing to enter on the study of medicine.

POPLITEAL ANEURYSM.

Dr. Carl A. Hamann presented a case of popliteal aneurysm which had been cured by digital pressure of the femoral artery for forty-six hours. The aneurysm had been about the size of a hen's egg, and had been accompanied by the usual signs, that is, a distinct bruit, expansile pulsation, some edema of the leg, and also distension of the superficial veins. Operation was contraindicated by the existence of a dilated aorta and a hypertrophied left ventricle. He said that digital compression is the best way of treating popliteal aneurysm, and this should always be tried before an operation is resorted to.

PRACTICAL POINTS ON THE MANAGEMENT OF LABOR.

Dr. Frank S. Clark read a paper on this subject, in which he emphasized the importance of all antiseptic precautions in obstetric work, and suggested that obstetrics was neglected by medical societies. He stated that in all instances puerperal sepsis is due to lack of cleanliness on the part of the physician or the nurse. He suggested that the fees in obstetrics are much too low, which is probably one reason for which physicians are inclined to be somewhat careless in their work, particularly in the matter of making sufficient visits after confinement to be personally assured that their patient is doing well.

Dr. Harris G. Sherman, in the discussion, said that ophthalmia neonatorum is one of the great causes of blindness and can always be avoided by the physician himself washing out the eyes with some simple antiseptic. Nitrate of silver, as often used, is too strong.

Dr. Ralph J. Wenner thought that obstetrics was not more neglected than other branches of medicine. He had seen ophthalmia neonatorum in a few cases arise under what appeared to be perfectly aseptic conditions. While there is some carelessness in obstetric work, no sweeping charges against the entire general profession were justified.

Dr. George S. Smith thought with the essayist that there is a great deal of carelessness on the part of the general practitioner and the teaching of obstetrics in medical colleges. He was convinced that fees for this work in the Western cities are much too low.

Dr. Clark, in closing, agreed with Dr. Sherman's remarks concerning the care of the infant's eyes. In reply to a question by Dr. Joseph E. Cook, he stated that he had never attempted repair of a cervix immediately after labor, for fear of infecting the uterus.

THIOSINAMIN IN CORNEAL OPACITY.

Dr. Harris G. Sherman reported thirty-three cases of corneal opacities treated by thiosinamin given in one-grain doses three times a day. He had secured favorable results, although not complete absorption of the opacities. He was convinced that the drug possesses very marked power of absorbing overgrowth of connective tissue. He urged others to use the drug in suitable cases to determine its further value.

Dr. William E. Bruner said that he had used the drug in a few cases of corneal opacity, and recalled one which was markedly benefited.

Dr. John B. McGee said that the practical point brought in this paper was the use of the drug in absorbing abnormal growths of connective tissue. He had had some favorable results with it and some that were not so favorable.

Dr. Sherman, in closing, said that the one most interesting fact in regard to the drug is its action in absorbing lupus and scars of a deep-seated nature. Some investigators have reported most favorable results with it in such conditions. Glandular growths have also been successfully treated with it. In his cases, while complete absorption did not result in every instance, the vision was very markedly increased in all.

MYOMA COMPLICATING LABOR.

Dr. John J. Thomas reported a case of labor complicated with fibroid tumor, in which great difficulty was experienced in determining the conditions during labor, and in which the tumor disappeared completely afterward without operation or treatment of any kind. He also reported a case of acute catarrhal laryngitis in a child 4 weeks old, accompanied by severe and prolonged spasm of the larynx.

Chicago Medical Society.

October 3, 1900.

President James H. Stowell, M.D., in the chair.

Dr. John B. Murphy read a paper on "Tuberculosis of the Testicle, With Special Consideration as to Its Conservative Treatment." It will appear in an early number of The Journal.

THE VALUE OF ANTISEPTIC NEBULÆ IN PULMONARY TUBERCULOSIS.

Dr. Homer M. Thomas followed with a paper on the above subject. At the outset the author reviewed the various methods of cure for tuberculosis which have been brought forward since 1882. A candid consideration of all those methods of treatment emphasizes his belief that they are merely collateral agencies; that the fundamental processes of cure are established by nature, not by the physician. The author's earlier papers were devoted to a review of animal experimentation. These progressively demonstrated the presence of antiseptic nebulæ from the nasal passages down to the throat, trachea and larger bronchial tubes. Additional animal experimentation microscopically showed the presence of oil globules in the pulmonary alveoli. The following benefits seem to the author to be established, as a reason for the general use of antiseptic nebulæ in the treatment of pulmonary tuberculosis:

1. The respiratory capacity, which is very limited in tubercular patients, is increased.
2. The catarrhal condition of the air-passages is diminished, thereby aiding a better introduction of air into the lungs.
3. The pulmonary passages are kept in an aseptic condition, and the danger of new invasion by tubercle bacilli is minimized.
4. The marked relief of cough and dyspnea.
5. The alimentary tract is undisturbed by drugs, giving ample opportunity for the increase of vital resistance by suitable diet and constitutional treatment.
6. The treatment of pulmonary tuberculosis by the inhalation of antiseptic nebulæ is rational and practicable.

PRESSURE THERAPY IN GYNECOLOGY AND OBSTETRICS.

Dr. Palmer Findley said that the method which he proposed is a modification of Freund's so-called "resorption cure." It consists of the introduction of a Carl Brun's' colpeurynter into the vagina, filled with 500 to 1000 grams of quicksilver. Over the abdomen is placed a bag of shot weighing one to three pounds. The patient is placed on her back or side, depending on the site of the pelvic exudate, and the pressure is continued for from one to several hours. The foot of the bed is elevated and the hips are elevated by pillows. The bladder and rectum are first emptied. This treatment is repeated daily until the desired results are obtained. When pain is caused, the pressure is relieved by removing the quicksilver and shot-bag. The danger of continuing the treatment in such an event lies not alone in the discomfort, but in the liability of exciting an acute exacerbation of the subacute or chronic inflammation, and in the dissemination of an unrecognized virulent infection. This is particularly likely in latent gonorrheal infection.

The indications for the treatment are parametritic exudates, particularly those lying low in the pelvis; cellulitic exudates, and in this lesion the treatment is especially applicable, because the exudate lies low in the cul-de-sac or in the broad ligaments, and is therefore directly compressed by the colpeurynter. It is in fixed retroplaced uteri that the method is most applicable. Here, in two or three treatments, the uterus is brought forward by direct pressure from behind and by the stretching of the adhesive bands, and at the same time the posterior vaginal wall is put on a stretch, thus throwing the uterus forward.

The method has lately been advised in retroverted, incarcerated pregnant uteri. Halban reports a reposition of the uterus by a single trial. Incarcerated pelvic tumors may be treated by the same method, if located low in the pelvis.

The method is not recommended as a substitute for massage in all cases. There are cases in which massage is preferable, as, for example, in adhesions attached to the fundus of the uterus, or involving normally placed appendages, but in the majority of instances the procedure is more convenient of application and the results are more quickly gained, requiring days where pelvic massage may require weeks and even months.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Medical Record (N. Y.), September 29.

1 *Some Personal Observations on the Effects of Intrapleural Injections of Nitrogen Gas in Tuberculosis. Henry P. Loomis.
2 *Electricity in Gynecology and the Present Reluctance of Gynecologists to Use Electricity. Robert Newman.
3 *A Cure of a Case of Hypertrophic Alcoholic Cirrhosis of the Liver, with Remarks. M. Luzzatto.
4 *The Co-operation of the Medical Profession of the United States with the National Confederation of State Medical Examining and Licensing Boards in Establishing Interstate Reciprocity for the License to Practice Medicine. Emil Amberg.
5 *Treatment of Fractured Patella. William B. Trimble.

New York Medical Journal, September 29.

6 *Hypertrophy of the Turbinated Bodies, and Their Relations to Inflammation of the Middle Ear, with Report of Fifteen Hundred Operations. Christian R. Holmes.
7 Case of Ozena of Probably Sphenoidal Origin. John W. Farlow.
8 *The Treatment of Umbilical Hernia in Children and Adults; Some Points in Technique; A New Method of Radical Cure. J. Coplin Stinson.
9 A Chinese Physician. William E. S. Fales.
10 *The Use of Piperazin in Nephrolithiasis. Charles J. Aldrich.
11 Some Observations Upon Syphilitic Manifestations in the Optic Nerve and Retina; Inflammatory Manifestations. (To be concluded.) Paul Turner Vaughan.

Philadelphia Medical Journal, September 29.

12 *Appendicitis. Samuel Lloyd.
13 *On Some Cases of Pleural Exudate with the Physical Signs of Pneumonia. Herman B. Allyn.
14 *A Digest of 200 Cases of Pneumonia. C. Z. Weber.
15 Pylorectomy for Adenocarcinoma, with Report of a Case. Jos. H. Branham.
16 *Inhibition of the Heart as an Aid in Diagnosis. Albert Abrams.
17 *Hemorrhoids: Etiology, Pathology and Treatment. J. William J. Doyle.
18 *Some Clinical Effects of Ammonio-Formaldehyd. Edward L. Keyes, Jr.

Medical News (N. Y.), September 29.

19 Medicine and Superstition. G. W. Guthrie.
20 *Some Studies in Metabolism in Chronic Nutritional Disease. G. W. McCaskey.
21 The Art of Keeping Cool, with Special Reference to the Proper Use of Water. Ralph W. Parsons.
22 *The Dose of Potassium Iodid, with Reference to Its Untoward Effects Upon the Upper Respiratory Tract. Lewis S. Somers.
23 *A Rare Case of Injury to the Membrana Tympani. Thomas D. Tuttle.

Boston Medical and Surgical Journal, September 27.

24 *A Study of the X-Ray Plates of One Hundred and Forty Cases of Fracture of the Lower End of the Radius. E. A. Codman.
25 *Traumatic Joints. Homer Gage.
26 *A Critical Review of Thirty Cases of Pyosalpinx. G. S. Whiteside and W. J. Walton.
27 Post-Operative Hematemesis. Kenelm Winslow.

Cincinnati Lancet-Clinic, September 20.

28 *Does Physical Law Apply to the Human Body? W. O. Owen.
29 Fistula in Ani and Rectum. George J. Monroe.

Medical Age (Detroit), September 25.

30 Chronic Inflammation in Structures of the Elbow Following Injury—Villous Degeneration of the Knee-Joint. James H. Halloway.
31 Two Pathologic Conditions: 1. Foreign Bodies in the Eye. 2. Inflammation of the Middle Ear. Louis W. Flanders.
32 Renal Calculus (Nephrolithiasis-Urolithiasis). Ewing Marshall.

Virginia Medical Semi-Monthly, August 24.

33 Malaria. J. T. Wilson.
34 The Mosquito in Malaria. P. L. Campbell.
35 Blood Changes in Malaria. J. E. Wilson.
36 Hematuria of Malaria. Samuel E. Milliken.
37 Modern Pathology and Treatment of Appendicitis. Pinckney French.

Virginia Medical Semi-Monthly, September 7.

38 *The Angiotribe in Abdominal Surgery. Hugh M. Taylor.
39 Entero-Colitis. William E. Fitch.
40 *Relation of Visual Defects to Occupation.* William B. Meany.
41 Diseases of Stomach. Edgar J. Spratling.
42 Acute Affection of the Tympanic Cavity and Eustachian Tube. J. R. Garrett.
43 Anemia, the Cause of Indigestion, and Indigestion the Subsequent of Anemia—Treatment. Wm. H. Vail.
44 The Blood as an Index of the Beneficial Action by Iron. Tilghman P. Marden.

American Practitioner and News (Louisville, Ky.), September 1.

45 *The Conservative Tendency in Genito-Urinary Work. F. R. Charlton.
46 *Therapeutic Value of Electricity. L. T. Lowder.
47 Operative Treatment of Hernia. J. T. Dunn.

Illinois Medical Journal, September.

48 *Medicine or Surgery. A. C. Corr.
49 *On the Evils Resulting from Naming Diseases or Their Supposed Causes After Individuals and the Importance of Maintaining a Clear Distinction Between Etiology and Pathology. N. S. Davis.
50 A Report of 240 Cases of Mitigated Smallpox with Symptoms and Diagnosis. C. E. Wilkinson.
51 Our Milk Supply; Some Observations at Home and Abroad. S. E. Munson.

Archives of Ophthalmology (New Rochelle, N. Y.), July.

52 *The Ophthalmic History of an English School (A. D. 1856 to 1900). Sydney Stephenson.
53 On Hemorrhagic Retinitis in Consequence of Endarteritis Proliferans, with Microscopic Examination of a Case. M. Reimar.
54 *Anatomical Examination of a Case of So-Called Coloboma of the Optic Nerve. Martin Goerlitz.
55 *Distention of the Sheath of the Optic Nerve with Cerebrospinal Fluid. Osteoplastic Resection of the Outer Wall of the Orbit (Kroenlein's Operation). Matthias Lanckton Foster.
56 *The Axis of Rotation of the Ocular Muscles*, with a Simple Method of Calculating Their Position, and the Correction of Certain Errors. Harold Wilson.
57 *The Theory of Accommodation. W. N. Suter.
58 *On Strictly Simple Evisceration of the Eye-Ball. H. Gifford.

Cleveland Medical Gazette, September.

59. Clinical Lecture on Cataract. D. B. Smith.
60 Intubation and Antitoxin. H. H. Jacobs.
61 Notes on the Enemata Employed After Abdominal Sections. Hunter Robb.
62 The Diagnosis of Tubercular Disease of Bone. Charles G. Foote.
63 Two Cases of Mastoiditis. W. E. Shackleton.
64 Formalin and Some of Its Uses in Ophthalmology. Edward S. Lauder.

American Journal of Obstetrics (N. Y.), September.

65 *The Evolution of My Technique in the Treatment of Fibroid Uterine Tumors. Howard A. Kelly.
66 *Membranous Dysmenorrhea. Lydia M. De Witt.
67 The Technique of Operations for Intraligamentary Tumors. Wm. H. Wathen.
68 Puerperal Eclampsia. John F. Moran.
69 Compression of the Ureters by Myomata Uteri. J. H. Mason Knox, Jr.
70 *On Suspending the Uterus on the Round Ligaments. Carl Beck.
71 Spontaneous Amputation of Tube and Ovary. George H. Noble.
72 The Role of the Liver in the Production of Eclampsia. W. A. Newman Dorland.
73 A Case of Metastatic Papillary Adenocarcinoma of the Recto-Vaginal Septum. Henry D. Beyea.
74 *Clinical and Pathological Records of Two Rare Gynecologic Conditions. William H. Weir.
75 Puerperal Metritis, Etc., with Subsequent Acute Infection of Fistula in Ano. J. Coplin Stinson.
76 A Case of Extrauterine Pregnancy with Retention of Fetal Bones for Seventeen Years. I. P. Klingensmith.
77 Placenta Previa. L. W. Atlee.

Hot Springs Medical Journal.

78 *Modern Surgical Treatment of Hemorrhoids. Gustavus M. Blech.

University Medical Gazette (Philadelphia), September.

79 The Technique Employed in the Surgical Department of the University Hospital. Service of Dr. J. William White. Alfred C. Wood.
80 Obstetrical Technique in the Maternity Department, University Hospital. Service of B. C. Hirst, M.D. John C. Hirst.
81 Care of Surgical Cases in the Gynecological Department of *the University Hospital. Brooke M. Anspach.*

82 The Preparation for Operations in the Author's Service at the University Hospital. Edward Martin.
83 Technique Employed in the Children's Orthopedic Department of the University Hospital. De Forest Willard.
84 *An Operation for Ununited Intracapsular Fracture of the Neck of the Femur. Gwilym G. Davis.
85 A Splint for the Treatment of Equinovarus. Gwilym G. Davis.
86 Spurious Meningocele. Joseph Sailer.

Louisville Monthly Journal of Medicine and Surgery.

87 Mind and Vital Force: Their Action Upon the Human Organism Through the Brain and Nervous System. J. Glahn.
88 Typhoid Fever. J. E. Pace.
89 Obstetric History—Taking in Private Practice. Joseph B. Cooke.
90 Death from Hemoglobinuria Without Fever, Except the Initial Attack. H. E. M'Kay.
91 Summer Diarrhea of Children. J. Rowan Morrison.
92 An Interesting Case: A Bone Lodged in the Rectum. L. Lazaro.
93 The Use of Saw Palmetto Co. in Genito-Urinary Diseases. Walter P. Ellis.
94 A Report of Surgery (continued). H. Horace Grant.

Buffalo Medical Journal, September

95 *Practical Hygiene. Henry R. Hopkins.
96 *Anesthesia by Nitrous Oxid Gas and Ether. Prescott Le Breton.
97 Gonorrheal Rheumatism. J. Henry Dowd.
98 *The Abuse of Quinin. W. F. Church.
99 *The Great Danger Attending the Use of Long-Tube Nursing Bottles. Ernest Wende.

Medical and Surgical Monitor (Indianapolis, Ind.), September.

100 Hemophilia, with Report of an Aggravated Case. John L. Masters.
101 Some Medical Observations of the German Speaking Countries. J. F. Barnhill.

International Medical Magazine (N. Y.), September.

102 *Venomous Snakes, Their Bites and How to Treat Them. Joseph McFarland.
103 *Defects in the Present System of State Medical Examinations. John S. Lewis.
104 Laceration of Perineum, Uterine Displacements, Ovarian Cysts, Tubercular Peritonitis, etc. Franklin H. Martin.
105 The Treatment of Pott's Disease. James K. Young.
106 The Quantitative Estimation of Sugar in the Urine. A Robin.
107 The Classification and Symptomatology of Abscesses. Charles L. Leonard.
108 Gastric Neurasthenia. D. J. M'Carthy.
109 Gastric Atony or Deficient Motility (Motor Insufficiency, Mechanical Insufficiency, Myasthenia Gastrica). Boardman Reed.
110 A Few Remarks About Carcinoma of the Liver. G. McConnell.

Peoria Medical Journal, September.

111 Pharyngeal Adenoids. H. M. Harrison.
112 The Question of Our Milk Supply. W. T. Shidley.

Interstate Medical Journal (St. Louis), September.

113 *Report of the Treatment of Aneurism with Gelatin Injections. H. L. Neitert.
114 Injuries to the Eyeball, With Report of Cases. Ellett O. Sisson.
115 Remarks on Stomach Diagnosis and Treatment, with Report of Cases. M. D. Schmalhorst.

Columbus Medical Journal, August.

116 President's Annual Address Before Hempstead Memorial Academy of Medicine. Joseph S. Rardin.
117 Phenacetin for the Relief of Pain. Frank Warner.
118* Subphrenic Abscess Following Appendicitis; Two Cases. J. F. Baldwin.

Denver Medical Times, September.

120 *Reflex Neurosis from Disturbed Pelvic Mechanism. Byron Robinson.
121 Water as a Remedy. J. W. Gunn.
122 The Physician as a Man. John A. Donavan.
123 *Early Corrective and Educative Treatment of Convergent Strabismus. Wm. C. Bane.

Colorado Medical Journal, August.

124 Syphilis of Lungs, Heart and Vessels. H. B. Whitney.
125 *Treatment of Syphilis. Wm. P. Munn.
126 Syphilis of the Abdominal Viscera. Henry Sewall.
127 *Inherited Syphilis. Sol. G. Kahn.
128 *Is Syphilis Ever Actually Cured? F. Finney.
129 *Prophylaxis of Syphilis. E. Stuver.
130 *Syphilis in Armies. Henry Lippincott.
131 *Syphilis and Trauma. Leonard Freeman.
132 Injuries to the Eye from Accidents in the Mine. (Concluded.) Melville Black.
133 *The Rational Treatment of Abortion in Country Practice. J. W. Cline.

Pacific Medical Journal (San Francisco), September.

134 Endometritis. Ch. W. Bryson.
135 Suppurative Middle Ear and Mastoid Disease and Some of Their Brain Complications—Some Cases Cited. Redmond W. Payne.
136 *Studies on the Digestion of Breads. Alfred W. Perry.
137 An Interesting Case. J. T. Stewart.

Merck's Archives (N. Y.), September.

138 Treatment of Morphinism. Charles J. Douglas.
139 *The Limitations of Ergot. F. A. Seymour.
140 Some Medical Philosophy. W. C. Cooper.

Medical Examiner and Practitioner (N. Y.), September

141 Interesting Phase of a Medical Examiner's Work. Talbot Jones.
142 Life Insurance and Cardiac Disease. F. G. Finley.

Southern California Practitioner, September.

143 Report of a Case of Fibroma Involving Tympanic Cavity. E. W. Fleming.
144 Occipito-Posterior Positions. Idris B. Gregory.
145 What are Necessary and Desirable Data Upon Health Resorts? Edward O. Otis.
146 *Pyorrhea Alveolaris and Its Relation to General Surgery. Geo. E. Abbott.
147 Some Suggestions Concerning the Use of Vegetable Digestive Ferments in the Treatment of Phthisis and Other Wasting Diseases. H. Mansfield.

Alabama Medical Journal. September.

148 The Need of a Separate Prison for Consumptive Convicts. W. H. Blake.
149 Difficult Labors and Their Management. Thomas E. Dryer.
150 Pneumonia. Richard M. Fletcher.
151 *The Effect of Flashes of Electric Light Upon the Eye. Dunbar Roy.
152 Notes on Some Remedies of Recent Introduction. H. A. Moody.

Charlotte Medical Journal (N. C.), September.

153 Infantile Diarrheas. M. H. Fletcher.
154 Protonuclein as a Remedy in Tuberculosis. C. W. Canan.
155 Bilious Fever. F. B. Cullens.
156 Alcohol in Diseases of Children. I. A. McSwain.
157 The Proper Method of Vaccinating. A. H. Ohman-Dumesnil.

Texas Medical News, November.

158 Appendicitis. J. G. Boyd.
159 The Insane from the Standpoint of the General Practitioner. G. H. Moody.
160 *The Spirit of Commercialism in the Modern Practice of Medicine. V. P. Armstrong.
161 Dysmenorrhea. Ethan A. Sherrill.
162 School Hygiene. Charles A. R. Campbell.

Fort Wayne Medical Journal-Magazine, September.

163 A Case of Tetanus Treated with Anti-Tetanic Serum. N. L. Deming.
164 Hygienic Management of Kidney Disease. Frederick R. Charlton.

AMERICAN.

1. **Nitrogen Gas Injections in Phthisis.**—Loomis has had good results with the method of injecting nitrogen into the pleura, advised by Murphy, in cases of tuberculosis, and reports a series of cases. He has not seen any absolute cures, but has seen an apparent arrest in two cases and no bad results in any. Improvement, especially constitutional, is marked and he finds the injections particularly beneficial in cases of pulmonary hemorrhage.

2. **Electricity and Gynecology.**—The use of electricity is commended by Newman, who finds from his own experience that better results are obtained from it than from any other means in many gynecologic conditions, and the lack of favor with which it is received by gynecologists has not been explained. He thinks we should have better instruction in electrotherapy.

3. **Cirrhosis of the Liver.**—The case reported by Luzzatto shows, he thinks, that alcohol is not the sole cause of cirrhosis of the liver, and that, when it is the cause, the disease is curable, more often the hypertrophic form, but the atrophic form also. It often shows symptoms characteristic of infectious disease. In his case the patient was entirely cured with milk, potassium iodid and diuretics.

4. **Interstate Reciprocity.**—Amberg's paper advocates the co-operation of the profession at large with the confederation of medical examining boards for the purpose of advancing the general interests of the profession. He suggests an interstate reciprocity committee, to be appointed by the national confederation, which will keep in touch with all other similar committees and, if thought advisable, will publish a journal.

5. **Fracture of the Patella.**—Trimble describes his method of operating for fracture of the patella, and claims that by operation only can good results be obtained. The aponeurotic

fringe can be removed only by operation, and if nothing has been interposed at the time of injury, the pressure required to control the contraction of the quadriceps interferes with the circulation and is also unendurable. Fibrous or ligamentous union is the best that can be expected from non-operative measures, and this will permit stretching to such a degree as to produce serious consequences. The operation should not be attempted after the fiftieth year, and other contraindications are diabetes and albuminuria. His method is the use of the wire suture.

6. **Hypertrophy of Deformed Bones.**—Holmes holds that in the second stage of hypertrophic rhinitis there is only one successful treatment, that is, careful surgical interference. He describes and illustrates his method and insists on the comparative importance of the operation. In all cases he removes as little of the edge of the inferior turbinate as possible for restoration of sufficient breathing space and saves as much of the anterior end of the bone as possible, inclining the line rather upward and backward from the lower edge of the anterior end, so as to incline as much as possible of the posterior hypertrophy, the saw having been pushed backward until its blunt tip is in the pharynx.

8. **Umbilical Hernia.**—The conclusions drawn from a comparison of the various methods by Stinson are: 1. That with careful antiseptic precautions, provided the operator is skillful and familiar with the special anatomical and pathological conditions associated, an operation for the cure of umbilical hernia has a mortality of about nil, or less than that associated with the condition previous to the operation. 2. That sterilized chromicized tendon or, in its absence, carefully chromicized catgut, is the most suitable material for buried sutures. 3. That before closing the wound the sac should be removed, the contents cleared out, the edges of the serosa overcorrected and then united with a layer of continuous sutures; the internal ring or opening in the transversalis fascia should be closed by continuous sutures; the internal ring should be reinforced and the remainder of the breach in the abdominal wall closed by uniting the broad edges of the fascia—the linea alba and lineæ semilunares—in two layers, avoiding tension by loosening one or both of the recti muscles from their sheaths, and bringing them together in the median line by sutures to fill and close the gap; the recti muscles are also to be used to close the breach when the fascial layers are atrophied; the skin is closed with continuous stitches without drainage. 4. That in the immense majority of suitable cases the patients are cured by the operation. 5. That the operation described closes the breach in the abdominal wall firmly and durably and without tension; has all the advantages of other operations, and that, having many additional advantages, and fulfilling all the indications for a radical cure, it should be followed by the best results.

10. **Piperazin.**—Aldrich reports two cases in which he thinks that piperazin prescribed in a diurnal of 20 to 25 grains in a large quantity of water was successful in relieving the condition of nephrolithiasis. He suggests the use of carbonated piperazin water in these cases as more agreeable and effective.

12. **Appendicitis.**—The general facts in regard to appendicitis, its tendency to recur, the classification of cases, etc., are discussed in full by Lloyd, and the technique of the operation described. He thinks there can be no longer any question in regard to the advisability of operating. His own experience shows of 160 appendectomies, 4 deaths—a ratio which he thinks will compare favorably with any medical statistics that can be offered and justifies early and radical operation.

13. **Pleural Exudate With Physical Signs of Pneumonia.**—Allyn reports a case of empyema which began with symptoms closely resembling pneumonia—chill, fever, cough, expectoration and physical signs on admission in accordance. At the autopsy there was found a thickened pleura with about 250 c.c. of pus, a fibroid lung with bronchiectasis, and old tuberculous foci in both lungs. There was probably just enough area above the small air-space to act as a resonator for the voice and breath-sounds and transmit them through the dilated bronchus. He asks whether there is any certain way in which the pleural exudate can be recognized and admits that there is no pathognomonic sign. The most important test is, of course, the puncture with a needle, but this may be also misleading, and it is sometimes difficult to obtain fluid, and when found, it may possibly come from a local subphrenic abscess. The X-ray would be of great service.

14. **Pneumonia.**—After an analysis of the cases, the author offers the following general observations: The most frequent predisposing cause of pneumonia is some pre-existing disease. Idiopathic pneumonia may be attributed entirely to depressing influences. Pulmonary inflammations are not only more prevalent in special periods, but the type also is more virulent at certain times. La grippe not only augments largely the number of cases during its prevalence, but has increased also the mortality. The left-sided croupous form has proved more difficult to manage and more frequently passes into phthisis than the other forms. Catarrhal pneumonias, when the apices of the lung are involved, are also associated with delirium. Alcoholism and typhoid do not enter as factors in the mortality of the cases discussed, but both have been observed to retard the stage of resolution and otherwise to lengthen the convalescence. As regards the treatment, he would first use counterirritants, arterial sedatives, antipyretics and anodynes. In the second stage he would cautiously, but vigorously, employ arterial sedatives, antipyretics, and even counterirritants, with the idea of limiting the area of infiltration and hepatization. In his experience it is usually in this stage that the physician is first called, and he found ammonium carbonate and iodid especially indicated, while only sufficient of the antipyretic, as, for instance, sodium salicylate, is employed to keep the temperature well in hand. He seldom uses opium in combination, but alone when indicated. Venesection has been employed twice without special effect on the lung itself. Cuppings to relieve pleuritic stitches were beneficial. In the third stage, where is the greatest danger, antipyretics are discontinued and alteratives, tonics, etc., are employed. When the affected lung is once restored to the normal condition, he thinks the official compound syrup of hypophosphites is serviceable.

16. **Inhibition of the Heart in Diagnosis.**—Abrams summarizes his investigations on the value of inhibition of the heart by forcible contraction of the muscles of the neck as follows: 1. The inhibition maneuver may cause organic cardiac murmurs to become faint and even, in exceptional cases, inaudible. 2. Transmitted murmurs are more amenable to the maneuver. 3. The fainter the murmur, the more easily is it suppressed. 4. When a transmitted murmur can be inhibited the tone which it masks can be auscultated. 5. The heart-tones are less amenable to inhibition than are the heart-murmurs. 6. Hemic murmurs are more readily inhibited than those of organic origin. 7. As a rule, anemic murmurs can be suppressed and their disappearance is marked by the reappearance of tones. 8. Exocardial murmurs are easily influenced by inhibition. 9. When the maneuver is incorrectly executed, the result is to increase the intensity of the murmur owing to increased exertion, which intensifies the heart's action. 10. When often repeated the inhibition murmur is futile owing to over-stimulation of the vagi. 11. In irregular action of the heart or in delirium cordis, the inhibition maneuver, by momentarily inhibiting the rapidity of the heart, renders signal service in determining the time of a murmur, being practically in its effects like the physiologic action of digitalis on the heart. 12. Inhibition maneuvers enable us to determine the condition of the vagi as to cardiac inhibition and guide us in the administration of the cardiotonics.

17. **Hemorrhoids.**—After noticing the treatment of hemorrhoids and advising the ligature treatment, Doyle offers special objections to the use of carbolic-acid injections, which, he thinks, are still sometimes practiced by responsible practitioners.

18. **Ammonio-Formaldehyd.**—Keyes sums up his conclusions as follows: 1. Urotropin seems to be almost a specific

in the treatment of some cases of acute catarrhal pyelitis, uncomplicated. 2. To prove effective it may have to be administered in high doses until the urine is practically clear of bacteria, after which a smaller dose may suffice. 3. In judging the effects of the drug, the centrifuge and microscope should be employed. 4. The dose must not be sufficient to cause pollakiuria and dysuria by irritation of the neck of the bladder. 5. The possibility of such an irritation can not be overlooked, even when very small doses are employed. 6. Urotropin is extremely serviceable as a prophylactic of the various forms of urinary septicemia and urethral chill. 7. Its routine employment both before and after operations on the urinary passages is indicated. 8. The urine containing urotropin occasionally has an escharotic effect upon wounds, which may constitute a contraindication to its employment.

20. **Studies in Metabolism.**—The subjects noted by McCaskey are especially the excretion of urea and uric acid. In urea hypo-excretion we have a depressed condition where the functional and nutritional processes must be stimulated. With increased urea excretion, of which diabetes mellitus is one of the most prominent conditions, the excessive metabolism must be cared for, and if in the excretion strictly within the normal range we still have nutritional disturbances, we should look for toxic conditions resulting from disorder of some principal organ of the body. As regards uric acid, he thinks that the theory of its being derived from the nuclein of the white blood cells is not entirely supported by clinical observation. In one case of splenic myelogenous leukemia he observed that the quantity of uric acid fluctuated widely, and all that he can say as regards these variations is that they indicate a disorder of the normal metabolic processes which has a more or less important bearing on chronic nutritional disorders. Other points of interest found by urine analysis are the presence of leucin and tyrosin and the variations in the quantity of different organic salts, especially the phosphates and chlorids as bearing on the metabolism.

22. **Potassium Iodid.**—The inconvenient effects of potassium iodid occasionally observed are noticed by Somers, who shows that these are sometimes caused by nutritional disease as well as by an apparent cumulative effect in long dosing. The individual variations are very great and we can not consider the tolerance to the drug as indicating the presence or absence of specific infection. The recent explanation of some of the peculiarities of reaction by von Cyon is that the iodid salts circulating in the blood in small doses were changed into iodiothyrin by the thyroid gland and this substance produces reaction; while in large doses they are eliminated by the kidneys in the form of soluble salts. It is to a certain extent possible to prevent the phenomena by the use of drugs such as arsenic and belladonna and by increased dilution of the iodid.

24. **Fracture of the Radius.**—From a study of the X-ray plates of a large number of cases of fracture of the radius, Codman divides the fractures into ten distinct types: 1. Fracture through the base of the styloid process, which does not affect the hand or wrist and which is properly treated by plaster straps around the wrist. 2. Fracture of the inner angle of the lower end of the radius without radical displacement of the hand, and its treatment is similar to the above. 3. Transverse fracture at or a little above the epiphyseal line (in adults) without displacement. Of these there are quite a number. 4. Comminution of distal fragments. 5. Separation of the epiphysis of the lower end which often present themselves with fragments completely reduced, but may show the typical silver-fork deformity. As a rule they are easily reduced, but generally tend to become readily displaced. Careful reduction and fixation in splints or plaster for a couple of weeks is almost sure to produce a good result. 6. This class is quite common. It consists in separation of the epiphysis of the lower end with a chip from the posterior surface of the diaphysis. Fixation and the dorsal pad are enough in most cases. If there is radial displacement cross traction as in Class 8 may also be employed. 7. The impaction of the lower fragments into the shaft is rare, occurring only twice in 140 cases. Unless contraindicated by age, it is better to break up the impaction and use anterior and posterior splints. 8. This class is the typical Colles' fracture and Codman divides it into two forms: *a*, with marked radial displacement of the fragment, and *b*, that in which posterior deformity is most decided. The skiagraphs show both the lateral and anteroposterior view of this fracture. The important point in the treatment is the pulling down and the pushing of the lower fragment over the end of the dorsal edge of the upper. Once reduced it can be kept in place, but has a tendency to slip out when pressure is omitted, and a simple pad of sheet wadding or felt pressed over the dorsal surface of the lower fragment and an anterior pad along the front of the radius about three-fourths of an inch wide and one-fourth of an inch thick are necessary. This latter stops just short of the sharp edge, which is fastened on the arm by adhesive straps before the splints are applied. A posterior splint to the knuckles of the first phalanges and an anterior, to the thenar eminence holds these in position. To control the tendency of the hand to become displaced to the radial side a cross-traction method is used. Two adhesive straps are looped about the wrist in opposite directions, one tending to pull the ulna toward the radial side and the other to pull the fragment with the hand to the ulnar side. These are placed at the same time as the anterior and posterior pads, the splints are held by an assistant, and after putting a circular strap about the upper end of the splint, traction in the opposite direction is put on the lower straps and the ends curled about the splints and caught. This leaves the ulnar side free opposite the ulnar fragment and the radial side free opposite the upper fragment and ensures a good circulation. The fingers and thumb are allowed free movement throughout and the splints are cut off at the wrist at the end of the second week. 9. Stellate fracture of the lower end of the radius with longitudinal fissures extending into the shaft. It has occurred six times, or in 4 per cent. of 140 cases. A simple band around the wrist is the only fixation required. 10. Reverse Colles' fracture, anterior displacement of the lower fragment, which has been carefully described by Roberts, of Philadelphia. The author does not claim that all fractures of the lower end of the radius are included within one of these classes, as other varieties are possible, but he wishes to call attention to the variety of the conditions found. In conclusion he emphasizes the following points: 1. True Colles' fracture formed by 46 per cent. of 140 cases of fracture of the lower end of the radius. 2. A knowledge of the position of the fragments is necessary for intelligent treatment. 3. The application of padding and splints should vary according to the displacement shown in the skiagram. 4. If the X-ray shows that marked deformity is still present after the splints have been applied, ether should be given, and another energetic attempt at reduction made. 5. Concomitant fracture of the ulnar styloid occurred in at least 62 per cent. of 140 cases, and if 39 cases in which this process was obscure in the skiagram are deducted, fracture occurred in 86 per cent. 6. In true Colles' fracture pressure over the anterior edge of the upper fragment should be avoided and cross-traction should be used to correct the radial displacement of the lower fragment. 7. Statistics of the result of Colles' fracture are not of value unless the pathology of each case is determined by a skiagram.

25. **Traumatic Joints.**—The conclusions of Gage's article are as follows: 1. All injuries to joints accompanied by loss of function are always attended by more or less laceration of the tissues in or about the joint. 2. Delays in the restoration of function are due in most instances, not to any complicating diathesis, but to the changes incident to the repair of these lacerations and their effects. 3. Such delays are best avoided by an early resort to massage and active or passive motions, and are favored by too long a continuance of rest and fixation. 4. When such delays have occurred, they are best overcome by more vigorous and persistent manipulation, supplemented by the application of heat or such other agents as may best stimulate the local circulation and favor the elasticity of the tissues.

26. **Pyosalpinx.**—From a study of thirty cases, Whiteside and Walton conclude that the gonococcus can not be proved to be the cause in so large a number of instances as is generally supposed. Pure cultures are obtained of other organisms, such as bacillus mesentericus, pneumococcus, colon bacillus, streptococcus pyogenes. It can not be proved that the gonococcus pre-existed in these cases and prepared the way, nor can it be disproved by such results as they have obtained. The experiments attempted to demonstrate the possibility of producing pyosalpinx by the pure cultures of these organs were all entirely negative. They do not consider the blood-count of great diagnostic or prognostic importance in this condition, and from a study of several cases they think the majority, when first seen by the surgeon, have had previous attacks. The symptoms are noted in detail and from their series of cases they conclude that the mortality of the operation taken as a whole is 16 per cent. The greatest dangers to be apprehended are in streptococcus infections from peritonitis, in all drained cases from fecal fistula, and in tubercular cases from extension of the disease to other organs.

28. **Diet in the Tropics.**—The question of diet in the tropics is discussed by Owen, who maintains from his results that the average worker in hot climates requires more food than in a cooler temperature. The laborers in the tropics do not live on vegetable food from choice, it is simply because it is more easily obtained and less liable to deterioration. This condition is exactly reversed with the Eskimo, who lives on fats. It is a matter forced upon the races by the circumstances of the surroundings, though custom has given a liking to each for his own diet. He maintains that if there is any change to be made in our diet for the tropics it should be in the nature of an increased allowance. It is not a reduction of the diet that is required, but the food should be handled with more care and be better prepared. He admits, he says, that the body may create less heat in hot climates and that his argument is not quite complete.

38.—This article has appeared elsewhere. See The Journal of August 4, p. 267.

45. **Conservatism in Genito-Urinary Work.**—Charlton notices the over-treatment of many cases of gonorrhea, a disease which is so dangerous in its effects and very common, though he repudiates the statement of Tait that every man has suffered from it. The too active treatment of stricture and the necessity of early conservative operation in kidney disease are also emphasized.

46. **Electricity.**—Static electricity is the special form here mentioned by Lowder, who finds it most beneficial in headache, painful menstruation, insomnia, nervous troubles, etc. He says we can abort an incipient cold, ease pain of an abscess, make more rapid convalescence from fevers, debility, brain fag, bronchitis, etc. Static electricity as used by him is one of the most wonderful therapeutic agents at his command.

48.—See abstract in The Journal, xxxiv, p. 1333.

49.—Ibid.

52. **Ophthalmic History of an English School.**—Stephenson reports the history, as regards contagious eye troubles, of an English charitable institution in London—the Hanwell School. The one great lesson it offers is that trachoma, no matter how prevalent and of how long standing, can be stamped out and that the continuance of such a condition in any institution is a standing reproach to its management, both lay and medical. The special measures taken were the erection of an isolation building and the complete remodeling of the main structures, which hastened and brought to rapid end the disease which had been under strictly medical measures in the old structures with only very gradual lessening.

54. **Coloboma of the Optic Nerve.**—Goerlitz reports the examination of a so-called coloboma of the nerve, which was found to be a case of unilateral malformation of the disc which corresponded to the ophthalmic picture usually given under this name. Macroscopically the enucleated ball showed a small cornea and a dilated intervaginal space. Below the nerve and between the sclera and the sheaths of the nerve there was a small elevation; the optic disc was enlarged in all its diameters and depressed in its lower portion, while its vessels had an anomalous course. Microscopically there was found a defect in the choroid leading into a circumscribed ectasia of the sclera having irregularly thickened walls. In the defect the choroid was wanting entirely, as was also the pigment epithelium. The scleral defect was filled with nerve fibers running from the disc, and a trace of other retinal elements. The optic nerve was fairly normal except for some irregularities and defects of the lamina cribrosa. The intervaginal space was conspicuously distended. The author says, comparing the anatomical condition in this case to previous ones it appears that this malformation is not so much a coloboma of the optic nerve as a coloboma of the choroid and retina with secondary formation of a scleral cyst of the lower margin of the disc.

55. **Distention of the Sheath of the Optic Nerve.**—The case reported by Foster and in which the Kroenlein operation was performed, was one of distention of the sheath of the optic nerve with cerebrospinal fluid, a condition which has rarely, if ever, been described. The author discusses the condition and notes especially the absence of optic neuritis, showing that the collection of fluid in the sheath of the optic nerve, even when it is very large, does not necessarily produce this condition.

57. **The Theory of Accommodation.**—Suter defends the Helmholtz theory of accommodation as opposed to that of Tscherning, and reports experiments made by him on the eye which seem to favor his view.

58. **Evisceration of the Eye-Ball.**—What is called simple evisceration is really, as Gifford says, evisceration plus keratectomy. For two years past he has been doing an operation which is a strictly simple evisceration; instead of cutting out the cornea he has made a meridianal incision entirely within the sclera or extending partly or entirely across the cornea, and has completed the operation through the opening thus made without removing any of the cornea. The results have convinced him that this should be the operation of election. The simple evisceration he claims tends to avoid the bursting open of the wound, first, by permitting the incision, which can be better coapted than where keratectomy is done, and second, and most important, it leaves so much more space within the globe that there is more time for the scar to organize before the contraction of the sclera attempts to stretch it over the artificial vitreous.

65.—See abstract in The Journal, xxxiv, p. 1338.

66. **Membranous Dysmenorrhea.**—From a study of the literature of several cases reported, De Wit concludes that the theory which seems to her most consistent with the histologic findings in the reported cases, as well as in those examined by herself, since inflammation is not a uniformly accompanying condition, and conception may often be positively excluded, is that perhaps under some abnormal local nerve influence, which may be congenital—since in many cases the disease begins at puberty—or even as suggested by Gautier, hereditary, or which may, through injury or local disease, be later acquired, the normal menstrual congestion and blood extravasation or fluid exudation is so greatly increased that the deeper tissues break and thus loosen the thickened decidua menstrualis *en masse* before nutrition has been sufficiently interfered with to cause its degeneration.

70. **Suspension of the Uterus on the Round Ligaments.**—Beck describes the operation previously published by him in the *Centralblatt fur Chirurgie* in 1897. The main features of this method consist in opening the abdomen in the linea alba by a small incision, seizing the fundus uteri with a traction forceps and pulling it outside the abdominal cavity. This procedure is facilitated by Trendelenburg's position. The round ligament of one side is then selected and freed to the extent of nearly three inches, the isolation beginning near its uterine attachment. Superficial incisions along both sides of the ligament permit the introduction of a grooved director.

by means of which the peritoneum can be stripped away bluntly, so that no hemorrhage occurs. The bared ligament is then held up by an aneurysm needle and pulled out from the abdomen to such an extent that the peritoneal wound margins can be united underneath. Six to seven catgut sutures suffice for the purpose. The ligament now rides on the peritoneum. To strengthen this peritoneal anchorage, fascia and muscle are also united underneath, while the ligament is suspended like a loop of a coat on a broad hook. One additional suture through the ligament itself usually suffices for fastening the ligament to the suture row. The remaining portion of the wound is dealt with in the usual manner. The margins of the integument are brought together by subcutaneous catgut sutures. Two relaxation sutures, consisting of iodoform silk, are applied through the skin, three-quarters of an inch distant from the wound margin, so that there is no direct contact with the wound-line. For prolapsus uteri the suspension of one ligament alone is sufficient, though a lateral position can not be avoided, but is usually harmless. In retroversion, fixation of both ligaments is, of course, necessary. From his experience of four years he claims that the only disadvantage of this operation and its modification is that it requires an opening of the peritoneum, but it has the great advantage of suspending the uterus in a perfectly normal position, which permits of such free motion that there is no interference either with the bladder or the rectum and no obstacle to pregnancy, as is usually the case with the ventrofixation methods.

74. **Cancer of Cervix and Fibromyomata of Uterus.**—The "rare conditions" described by Weir are primary cancer of the cervix uteri in a nulliparous woman, and fibromyomata of the uterus associated with fibroid of the right ovary.

78.—This article has appeared in various journals and was abstracted in The Journal, xxxiii, p. 977.

84. **Fracture of the Femur.**—Davis describes the method of uniting a fracture of the neck of the femur by a straight incision down from the anterior superior spine of the ilium, being careful not to go so far down as to endanger any large blood-vessels or nerves, opening up between the capsule of the joint on its anterior surface between the two arms of the Y-ligaments and permitting the free entrance of the index finger and the use of instruments. This opening need not be closed before using the ivory pins to hold the fragments after getting them into position, leaving the pins in place. He thinks a still more efficient way would be to use a silver-plated screw. Two cases are reported; in the first he used steel pins, in the second, ivory pins were used with good results.

95. **Practical Hygiene.**—The subjects of tuberculosis, scarlet fever and typhoid fever form the chief theme of Hopkins' article. As regards tuberculosis, he maintains that Koch's discovery of its germ has been the most "hopeful gospel" to mankind for 1800 years, and he reiterates the usual instructions in regard to its prophylaxis. As regards typhoid fever, he says that this has become in New York state a rural disease due to insanitary conditions in the country districts, and calls attention to the necessity of better attention to sanitary conditions of the farms as well as to the farm products that come from them, which may carry the infection. As regards scarlet fever, he maintains that its infection is slight in the beginning, but becomes intense during the desquamative period and points out how, especially in country homes, isolation in this period should be secured.

96. **Nitrous Oxid Gas and Ether.**—Le Breton describes the Hewitt inhaler and Bennett modification and the Goldan apparatus, which has the advantages of simplicity and comparative cheapness. He calls attention to the practical points of rapidity in the transition from gas to ether and the necessity of not continuing the gas administration too long. The advantages are, comfort to the patient; freedom from excess of mucus and saliva; the smaller quantity of ether employed; the less liability of kidney complications on this account; the comparative cheapness of the combined method; the greater ease with which certain cases, alcoholics, especially, are anesthetized; the time saved, and the safety. The chief disadvantage is the cost and the bulkiness of the apparatus.

98. **Abuse of Quinin.**—The overusage of quinin by the laity is here deprecated by Church. He thinks the drug is given too much and it would be better if the laity knew less about it, as well as about morphin and some other drugs. He reviews the testimony as to the physiologic effect of quinin and names some of the evil consequences that sometimes have followed its use, such as blindness, headache, nervousness, etc. He says that quinin is contraindicated in inflammation of the middle ear and labyrinth, in renal irritation, in acute inflammation of the gastrointestinal tract and in still other cases it is not well borne.

99. **Nursing-Bottles.**—Wende's article points out the dangers of long-tube nursing-bottles and illustrates them by microscopic pictures showing the possibilities of infection by these long tubes.

102. **The Venom of Snakes.**—McFarland mentions the different kinds of venomous snakes inhabiting the United States, which are rattlesnakes, about twelve species, the moccasin and copperhead and the coral snake of the South. He describes the mechanism of their poisoning apparatus and the different effects of the poisons of different species. Usually the size of the animal has much to do with the seriousness of the injury, that by the copperhead and little ground rattler seldom producing general poisoning, though the local effects are usually marked. The various remedies are mentioned, especially antivenene, and in conclusion he says that, briefly outlined, the treatment of snake-bite is: 1. Immediate interruption of the circulation of the bitten member, so as to prevent absorption of the poison. 2. Free incision and enlargement of the fang-wound and forcible suction to extract the poison. 3. Hypodermic injection of three to six drops of a fresh water 10 per cent. solution of chlorid of calcium in about a dozen different areas about the wound. 4. Strychnia given hypodermically to stimulate the respiratory center. 5. Immediate and frequent repeated hypodermic injections of ten to 20 cubic centimeters of the antivenomous serum, or as Calmette calls it, "antivenene." The most urgent need of the patient is for immediate, unlimited administration of antivenene. It would be a wise precaution for persons who are in continual danger of snake-bites to provide themselves with this remedy and carry it with them.

103. **State Medical Examinations.**—The difficulties in the way of uniform state medical examinations and the common standard are noticed and Lewis mentions the objections to the present rules. He believes that it would be perhaps possible to secure reciprocity if the District of Columbia standard were generally adopted to meet all the conditions. Should the National Board of Health movement now under contemplation be successful, it might be best to utilize that body for this purpose.

113. **Gelatin Injections in Aneurysm.**—Four cases of aneurysm treated with gelatin injections are described by Nietert, and the conclusions drawn therefrom are stated as follows: 1. Great pain at site of injection often follows introduction of a large amount of the fluid. 2. The gelatin being a good medium for the development of micro-organisms, great care is required to keep it sterile. 3. The symptomatology is greatly improved in every case; the pain is usually lessened, the patient breathes easier and shows less pressure symptoms on important surrounding organs. 4. In most cases the tumor becomes more firm and expansibility less marked. 5. It is likely that great good can be effected by the gelatin injected in aneurysm of the smaller vessels. 6. Post-mortem examination in every case shows large organized clots, filling the cavity of the aneurysm, which are undoubtedly due in a great measure to the gelatin.

118.—This article has appeared elsewhere. See abstract in The Journal of July 29, ¶26, p. 257.

120. **Reflex Pelvic Neuroses.**—Robison details the elaborate nervous supply of the genital organs, describing the cervicouterine ganglion as the pelvic brain, giving its connections, and calling attention to the gastric, cardiac and other reflexes produced by the irritation of these parts.

123. **Convergent Strabismus.**—Bane emphasizes the importance of examining the eye at the earliest possible moment on the appearance of strabismus and the correction of any errors of refraction with spectacles, even if the child be but 2 years old; also the use of the occlusion pad in all suitable cases. Operation is advised as soon as there is positive evidence that further gain can not be made by the educative treatment.

125.—See abstract in The Journal of September 1, p. 578.

127.—Ibid., p. 577.

128.—Ibid.

129.—Ibid.

130.—Ibid., p. 578.

131.—Ibid., p. 577.

133.—Ibid., August 18, p. 447.

136.—**Digestion of Breads.**—The questions as to the dryness or moistness of bread eaten and the sterility from baking are discussed by Perry. He finds that there is no reason for ascribing gastric disorders to the presence of living bacteria, for the heat of baking in loaves of less than 2 pounds weight is enough (203 F.) to kill all gastric fermentation bacteria that may have been in the materials used. Those found in the London examination of Walsh were other innocent species and were found only in 4-pound loaves. The dryness of the bread with porosity, on which depends the amount of saliva which is absorbed in chewing is the main factor in determining the digestibility of the bread. If bread which is dry and porous is soaked in liquids before eating, or in the mouth while eating, its character of easy digestibility is taken away.

139. **Ergot.**—The physiologic action of ergot, as Seymour says, is to stimulate the vasomotor nerve-centers. Its action upon unstriped muscular fibers produces contraction of the blood-vessels and with the single exception of uterine hemorrhage, the arrest of non-traumatic bleeding is best effected by the induction of vasomotor paresis. The use of vasomotor excitants might be rational only if their action could be restricted to the immediate territory involved. We have been misled by taking uterine hemorrhage as the type of all hemorrhages in these cases. He has seen ergot produce a persistent diarrhea due to its action, undoubtedly, on the peristaltic muscles, yet it is often given for the control of intestinal hemorrhage. A protective clot stands a poor chance of adhesions under its grip. Its use in the cerebral or pulmonary bleedings is still more perilous. The blood-pressure within the cranium may be disastrously intensified and in pulmonary hemorrhage the increased vasomotor tension exaggerates the condition.

146.—**Pyorrhea Alveolaris.**—The relation of Riggs' disease to general surgery is here noticed by Abbott, who believes that it is responsible for many conditions, such as putrid exudates, etc. He mentions a case where this has developed extensive inflammation and septic infiltration of the lymphatics and glands of the floor of the mouth, the throat and the neck. In other cases it may produce antral disease, and he has heard of a case of cystitis which cleared up at once after the extraction of the diseased tooth. He asks what surgeon would allow his patient to take five or six drops of pus three or four times a day, yet this must be the case with sufferers from this disorder.

151. **Electric Light and the Eye.**—Roy reports a number of cases of irritation of the eye from the use of electric light, both arc and incandescent. The chief points of interest are whether the dangers produced are of chemical or traumatic origin, the presence of contraction of the pupils from retinal irritation persisting for days, and pain occurring several hours after the accident.

160. **Commercialism in Medicine.**—Armstrong gives his views as to the pervading spirit of commercialism as he sees it, and especially the need of modification of the Texas medical laws. He writes forcibly and as far as medicine is concerned, leaving out the politics and poetry, which may not agree with everybody, his views deserve general acceptation.

FOREIGN.

British Medical Journal, September 22.

A Discussion on the Correlation Between Sexual Function, Insanity and Crime.—The chief paper in this discussion is furnished by H. Macnaughton-Jones, the distinguished gynecologist, whose conclusions are given as follows: 1. Functional disorders of ovulation are frequently attended by mental aberration, and in a proportion of cases originate the mental disturbance. The same remark applies to disorders of ovulation which have a pathological cause. 2. In the great majority of such cases, the nervous disturbance is of the neurasthenic character, and is associated with various visceral or other neuroses. In only a small proportion does the alienation assume so grave a type as melancholia, mania, or dementia. 3. Where in an insane person, ovulation and its external manifestation, the menstrual discharge, are erratic or absent, the erraticism or absence may be a consequence of the general and insane condition, and not a causal factor in its production; but under any circumstances such abnormal menstruation appears to have an aggravating effect on the insanity, and there is sufficient evidence to support the view that when such irregularity—especially if it be due to a pathological cause—exists, it should be treated therapeutically or by operative measures. 4. The question of a gynecological examination of an insane woman must be a matter for the discretion of the psychologist, influenced by the gynecological view as to its expediency from the signs and symptoms present in the sexual organs. For many reasons, as a universal practice, with our present knowledge it is not advisable. 5. Sufficient evidence is now advanced to justify the removal of the adnexa or uterus in insane women, when there are gross lesions of the former or tumors of the latter. Here, again, such operation must be advised according to the psychological condition of the patient and the type of her insanity. 6. From a mass of evidence, including some of the largest experiences in Europe, Canada, and America, it does not appear that there is in healthfully-minded women, who suffer from diseases of the genitalia, any special risk of post-operative insanity. On the other hand, if there be a psychopathic predisposition, which had existed prior to and independently of the sexual disease, there is in such cases a larger percentage of post-operative mental disturbance than follows other operations. In such women the prudence of a radical operation may have to be carefully discussed. The post-operative mental effect does not appear generally to be of a serious or permanent nature. 7. It may be generally affirmed that when mental disease of a graver type follows upon sexual disorder there has been in the woman affected an underlying and often unrecognized psychopathic predisposition; the disorder of the menstruation or the disease in the genitalia completing the chain of the vicious circle needful for the final manifestation of the mental condition. 8. The relation of aberrant sexual function or a disorder of menstruation to any criminal act ought to be taken into consideration in determining the responsibility of the women.

Acute Delirious Mania. John Turner.—Turner recognizes three divisions of acute delirious mania: 1. Those of alcoholic origin. 2. Those of septic origin. 3. Those in which we are not able at present to identify any particular poison as the cause. It is the latter form that the author chiefly treats of in this article. The main point to which he calls attention is that the most of these cases present definite alterations of certain of the cortical nerve cells—chiefly the giant cells of Betz—so much so that they are almost characteristic. He says *almost*, because in at least once case he was not able to find this change though other cells showed pronounced changes. He remarks on the symptoms, reports cases, and figures the changes that he has observed. The naked-eye appearances consist chiefly in intensely congested areas in the meninges and sometimes thrombosis and hemorrhage. From his study he believes that all forms of acute delirious mania are of toxic origin, but while some are obviously caused by the introduction of poison from without or the absorption of certain matters there is a third class due to auto-intoxication, probably from perverted metabolism which is probably caused by a disordered nervous system. In these acute cases occurring in the prime of life we almost always meet with fatty degeneration of the liver, an organ one of whose functions is probably to prevent the introduction into the system of poisonous intestinal products. It may be asked why some nerve-cells suffer while others in their neighborhood escape. It may be, he says, that these particular cells, which are chiefly concerned in the production of the symptoms are those which will feel the chief effect of the poison. If, as some hold, accumulation of pigment in the nerve-cells is an expression of past and probably recent activity, the fact that the cells which are most pigmented are usually those most affected will bear out this contention. The subject is, however, as yet too speculative for beneficial discussion. The cells just described are found here and there in many other forms of insanity with different clinical histories and even in some cases of acute delirious mania only a minor proportion of the giant cells are markedly affected. As a rule, however, in cases with high delirium and a rapidly fatal termination we generally meet with a condition in which all the giant cells are profoundly altered and the author believes from an inspection of such a section a diagnosis can be formed of the mental condition preceding death.

Organo-Therapeutics in Mental Diseases. C. C. Easterbrook.—The origin of organo-therapeutics dates from Brown-Séquard's experiments in 1889 and the doctrine of internal secretion formulated by him that "all glands and all tissues have an internal secretion and all injected subcutaneously have a tonic effect" is taken as the text of this article. During the past five or six years Easterbrook has administered in various forms of insanity extracts of the following animal organs: The thyroid gland, the parathyroid bodies, the thymus, the pituitary body, the brain, the choroid plexus, the spleen, the suprarenal bodies, the testes, the ovaries, the uterus, and the mammæ. With the exception of the thyroid, none of these have been very generally employed by alienists, and parathyroid extract so far as he knows has not been employed before at all. He carefully selected his cases among patients not progressing toward recovery under other treatment, and sought to avoid the fallacies of calling temporary remissions recoveries, or to attribute to the drug any improvement or change that might be due naturally to the course of the disease and he has also excluded all psycho-therapeutic influences in any form so far as possible. His patients were first weighed and put to bed on a diet sufficient to maintain the body temperature and body weight, careful notes made of the state of the bodily and mental functions, the excretions, the blood, urine, etc., with careful quantitive and qualitative examinations and microscopic studies. Sphygmographic tracings, and observations of the blood-pressure with sphygmometer were also made in some cases. In the 130 cases tested with the thyroid extract, including a large number of forms of insanity and almost the whole range of symptoms of the disease, large and small doses were given separately and effects noted as producing changes in the temperature, circulation, nervous system, urine, etc. Small and moderate doses were tolerated well by all. Large doses were badly borne by those under 20 and over 60 years. Easterbrook suggests that, in the old, the thyroid gland is feebly functional and the system is not prepared for much thyroid secretion, while in the young it is freely active and the system well supplied, therefore any addition is superfluous. In the 130 cases there are 12 recoveries which he thinks can be attributed to the drug and 29 cases were improved. All the recovered cases had been selected as failures from former treatment, the average duration of treatment before thyroid medication having been eight months. Several cases that had been treated, recovered some time after, which indicates that a patient not cured by the thyroid method may still recover by other means. Nevertheless his experience is that if the patient is going to recover under this drug it will be done with the first few large doses. When used in chronic insanity temporary improvement is common and he has found it useful in aborting periodic attacks of violence. The therapeutic effects of parathyroid were negative, the same is true as regards mental symptoms with thymus and pituitary extracts, though there was in some cases temporary improvement with both. Brain extract was used in 19 cases, of which 2 recovered and 3 were improved. Choroid plexus extract was negative in its results. Suprarenal extract he thinks had some effect in increasing the blood-pressure and he would advise a systematic trial in maniacal cases. It seems also to produce a specific diminution of tissue oxidation. With the splenic extract there was in two cases temporary improvement physically and mentally with subsequent relapse. Of the 8 cases treated with orchitic extract 3 were improved mentally while 2 others were physically benefited. Thirty-six cases were treated with the ovarian extract, 2 of the patients recovered long after the treatment, probably independently of it and 4 cases, mainly stuporous, were improved. Two of the patients in whom the ovaries had been extracted or destroyed by disease were unimproved either mentally and physically by large doses. Uterine extract was negative. The 2 cases treated by the mammary extract were affected with a rise in temperature and loss in weight, but no change in other respects; both however fully recovered, one after a careful thyroid treatment. In conclusion, he states that Brown-Séquard's generalization needs some modification. His own investigation led him to conclude that those animal extracts which consist mainly of simple proteids and albuminoids have merely a dietetic value, but those that are rich in nucleins and nuclein proteids produce when given in sufficient doses a temporary stimulation of cell katabolism and subsequent anabolic reaction. It is important to recognize this tonic effect. Apart from this it is extremely doubtful whether each organ possesses a specific internal secretion in the sense intended by Brown-Séquard. Some organs, however, as the thyroid with its iodothyrin and the suprarenal bodies with their active principle have a decided special effect. Thyroid extract stands far and above all others in stimulating tissue oxidation, and anabolic reaction never sets in until after the cessation of the drug, which is not the case with other extracts.

Revue de Medicine (Paris), July and August.

Affections of the Spinal Cord in Heredo-Syphilitic Infants. De Peters.—In certain cases symptoms indicating an affection of the spinal cord are the only means of diagnosing inherited syphilis. De Peters has observed eleven such instances. Nothing suggested syphilis in either parents or children except the nervous symptoms and the fact that they yielded promptly to specific treatment. In some cases there was isolated paralysis of the muscles of the scapular region, isolated paresis of the leg, isolated contraction of a group of muscles, as, for example, the psoas and iliac muscles, or those of the back of the neck, coexisting with paralysis of other muscles, or the oculo-pupilary Dejérine-Klumpke symptom alone. In differentiating this from obstetrical paralysis, an important point is that the latter is more apt to occur in well-developed children born at term and that it is usually unilateral.

Acute Dysenteric Hepatitis. P. Remlinger.—The acute non-suppurative hepatitis accompanying dysentery commences during or consecutive to the latter—eighteen months after in one of the four cases described, and nine years in another, after the first manifestations of the recurring dysentery. The onset is sudden and violent. Morphin is powerless to relieve the intense pain. The liver appears hypertrophied all over, the spleen normal. Ordinary treatment is ineffectual, but local blood-letting is followed by almost immediate relief.

August.

Gastrointestinal Troubles from Nervousness. Dubois.—No organ is so sensitive to the emotions as the gastrointestinal canal. It is the mirror of the condition of our soul, Dubois asserts. Pavloff showed that a dog secreted as much gastric juice at the sight of his dinner on a dish as another dog given 100 gm. of meat. This demonstration of a "psychic appetite" has been supplemented by Kronecker's recent experiments proving the effect of fear on peristalsis. The influence of massage and exercise was evidenced in the passage of a silver ball through the isolated intestine of a dog by increased peristalsis. A threatened beating, however, sent the ball along more rapidly than all the physical measures combined. A number of typical cases of nervous gastrointestinal affections are described in this communication and the benefits to be derived from measures to educate the will, control the reason and train the intestines, combat the nervous preoccupation and divert the patient's attention, are emphasized. Medication is useless in these cases.

Berliner Klinische Wochenschrift, August 27, September 3 and 10.

Peculiar Dangers of Otitis in Elderly People. Heine.—With advancing years osteosclerosis of the mastoid process frequently occurs, but is usually confined to the external portion, while the internal portion of the temporal bone retains its spongy character. For this reason suppurative processes do not readily work outward, while serious lesions may be progressing in the depths. Four instructive cases are described, forcing the conclusion that patients over 40 with inflammation of the middle ear should be operated on as promptly as possible, otherwise rapidly fatal cerebral complications are liable to supervene.

Adjustable Spectacle Frame. L. Sarason.—To prevent myopic school-children from using distance glasses for near work, the lenses are suspended in the frame from the top. They consequently swing outward out of the line of vision whenever the head is bent forward.

September 3.

Injuries from Lime in the Eye. Schmidt-Rimpler.—A 100-gm. syringe and a bottle of oil should be kept where lime is being used. In case of an injury to the eye from the lime the oil should be injected from the external angle and the eye well irrigated with it.

September 10.

Harmful Suggestion in Accident Cases. W. Seiffer.—The writer of this communication is assistant at the Nerven-Klinik of the Berlin Charité, and describes from his personal experience the vast harm done by physicians in expressing an unfavorable prognosis on the first examination of a patient after an accident. He attaches the utmost importance to the physician's verdict at such times and requires a tonic, psychic treatment, suggestion of rapid recovery, while a grave prognosis announced is liable to increase the gravity of the traumatism. His cases of more or less conscious simulation, traumatic hypochondria and hysterical paralysis, lead him to endorse Bruns' statement that traumatic nervous affections are due far more to subsequent events and emotions than to the trauma itself. He therefore begs physicians to weigh their words well at such times and to err, if they err at all, on the side of a too favorable prognosis.

How to Secure Asepsis in Catheterization of Ureters. M. Katzenstein.—Tests at Israel's surgical clinic have conclusively demonstrated that it is impossible to sterilize catheters thoroughly with sublimate, while other processes are liable to injure the catheters, and disinfection with formaldehyde has been tedious and insufficient hitherto. Katzenstein has constructed an improved apparatus which consists of a tall metal box 17 cm. long, 11 cm. high and only 2.5 cm. deep, on the floor of which tri-oxy-methylen—which is nothing but polymerized formaldehyde—is scattered. The back of the box is pierced with a dozen small openings containing each a small tube, terminating on the outside with a screw-thread on which a cap or a catheter is screwed. An oblong metal box of the same width and height, but 44 cm. long, fits on the gas chamber above-described and supports the catheters on a wire tray. The gas generated in the small chamber has no means of escape except through the catheters screwed on the tubes opening into it, which are thus rendered sterile in ten minutes. Ureteral catheters only require twenty minutes at most. The large box is made in two halves that telescope, so that it can be drawn out to a length of 80 cm. The heat is supplied by three small gas jets, raising the temperature to 60 or 80 C. in the generating chamber. Catheters are not injured by this process. A small pocket apparatus is made on the same principle, the heat supplied by a thermophore attachment.

Success of Chirol "Varnish Gloves." R. Kossmann.—The hands are first thoroughly sterilized and then dipped for fifteen seconds—no longer—in the fluid chirol. They dry in three minutes and neither sweat nor germs can pass through these varnished gloves from within nor germs nor fluids from without. Kossmann describes a number of tests in which the fingers were rubbed on cultures of bacillus pyocyaneus and prodigiosus and then pressed and rubbed three times on a plate of agar. They were then dipped in the chirol without sterilization and pressed again on the agar a number of times. Not a single culture developed after the chirol had been applied while numerous colonies grew at each one of the three points first touched. Even without preliminary sterilization, the value of chirol in preventing infection promises to be inestimable, because it plugs up all the crevices and nail-spaces.

Deutsche Medicinische Wochenschrift (Leipsic), September 22.

The Neuron in Anatomy and Physiology. M. Verworn.—This summary of the facts on which the neuron theory is founded was presented at the Congress of Physicians and Naturalists which met at Aix-la-Chapelle, September 19. Nissl believes that the theory of the neuron as a unit is untenable, but Verworn claims that all the latest researches have merely confirmed this theory. He admits that the neuron is not the same thing everywhere that we see in Golgi's pictures of the cells of the anterior cornua. The neuron is of many varieties and shapes, according to its location and its function, as Nature never works by an exact pattern. Modern research has led to the further and freer evolution of the conception of the neuron as a cellular unit. He reports experiments which show that the metabolism in the central nerve-centers is incomparably more intense than in the peripheral nerves, also that the centers pass through stages of fatigue and exhaustion the same as the muscles; fatigue from autointoxication and exhaustion from using up the reserve supplies, especially of oxygen. His pupil, Baglioni, is soon to publish an account of researches which show that strychnin injected into the spinal cord affects exclusively the sensory elements of the posterior horns, increasing their excitability to an enormous degree, while carbolic acid in certain solutions affects merely the motor elements of the anterior horns, increasing their excitability.

Reposition of Luxated Shoulder by Riedel's Method. Graef.—It is amazing, Graef observes, after years of experience with the old and frequently unreliable method of traction by four men on the upstretched arm, to see the ease and rapidity with which a severe anterior luxation of the shoulder can be reduced by Riedel's method. Narcosis is indispensable. The muscles prevent the entrance of the head into its socket, but once relaxed by complete narcosis, the head is held only by the tendon connecting the acromion and the middle portion of the humerus. If the arm in extreme adduction is then pulled from below diagonally across the body toward the sound side of the pelvis, the head slips easily and immediately into place.

Another Toe-Finger. Eiselsberg.—The right forefinger of a young man had been cut off four months before the operation described. Eiselsberg applied in its place the second toe, leaving it still attached to the foot by a portion of the soft parts, and applying a plaster cast. The connecting bridge was gradually severed and completely divided by the twelfth day. None of the toe was lost and sensibility has developed; mobility has not yet appeared, but is confidently expected in time, as occurred in Nicoladoni's toe-finger operation two years ago.

Acute Progressive Peritonitis Cured by Operation. Urban.—Two children 3 and 3½ years old, respectively, with severe progressive peritonitis, one apparently moribund, were treated by incising the abdomen on the median line for 6 to 8 cm., nine and four days after commencement of the disease. The wound was not irrigated nor drained but was left open and dry dressings were applied. Improvement commenced at once, and went on to recovery.

Mittheilungen a. d. Grenzgebieten der Med. u. Chir. (Jena), vi, 4 and 5.

Experimental Production of Gall-Stones. H. Miyake.—Introducing foreign bodies or cauterizing the mucosa, etc., never led to the production of a true calculus in [illegible] experimental research reported. Infection proved [illegible] ind[illegible]pensable factor, with the consecutive [illegible] biliary passages, combined with means to prevent expulsion of the stones.

Omentum Tumors. R. BORRMANN.—In studying the published descriptions of "omentum tumors" the statement is always found that a portion of the tumor was adherent at some point to the stomach or colon. Borrmann claims that the tumor originally developed from the organ to which it is adherent and grew between the layers of the omentum.

Technique of Esophagoscopy. G. GOTTSTEIN.—According to the technique employed at Mikulicz' clinic the patient reclines on his right side on a table, the head slightly drawn back, the physician seated on a low chair at his head. The tongue and entrance to the esophagus are swabbed with a 10 per cent. solution of cocain. Once past the entrance, the esophagus offers no further obstacle to the passage of the tube, but it may require considerable gentle manipulations to enter it. A Casper panelectroscope is then applied. Esophagoscopy is no more dangerous than any other procedure of the kind.

Muenchener Medicinische Wochenschrift, September 18

Gout in Germany. A. STRUEMPELL.—The Germans have always claimed that gout was rare in their country, but Struempell states that it is frequently encountered now and that the failure to note it before was due to the lack of search for it. The majority of patients he has observed were connected with the manufacture or sale of beer, or had been exposed to lead-poisoning.

Inflammation of the Gall-Bladder and Consecutive Gastrointestinal Disturbances. W. FLEINER.—The writer recommends flushing the stomach with tepid water and rectal injections of oil as effective means of combating the gastrointestinal disturbances left after an acute cholecystitis. The oil actively promotes peristalsis and proves a powerful cholagogue. Irrigating the fasting stomach rinses out the whole organism, especially the liver, as a portion of the water is absorbed by the portal vein and carried directly to the liver. He extols these systematic flushings of the stomach as fully equal to a course at Carlsbad, and even more effective in certain cases, while they can be carried out at any time and are not restricted to the watering-place season. They exert a gymnastic influence on the gall-bladder as well, preventing the formation of adhesions between it and the stomach, and thus curing many a case of motor insufficiency of the stomach from this cause. A tendency to hemorrhage on the part of the gastric mucosa is a counterindication for lavage.

Acute Lukemia. A. DENNING.—A case is described in which an otherwise typical lymphatic leukemia or lymphemia was not accompanied by any perceptible alteration or swelling of the glands, and the spleen and liver did not become hypertrophied until the last stages of the disease. The condition of the gums and mouth suggested scorbutus. This emphasizes the necessity of examination of the blood in every case of stomatitis of unknown origin.

Gas Gangrene. G. MUSCATELLO.—Five cases are described of local gangrene with gas formation and symptoms of general intoxication, only differing by the complication with inflammatory processes which was observed in a few, and by a tendency to the invasion of the surrounding sound tissue in connection with the inflammatory processes. The bacillus aerogenes capsulatus was found in three cases. It evidently has no action on sound, but primarily invades altered tissues. The bacillus coli communis was found associated with the proteus in one, and with the streptococcus in another case. All the patients recovered, three after amputation of the arm, leg or thigh in which the infection had developed after a traumatism—stab wound or compound fracture. In another case the gangrene developed consecutive to abdominal extraperitoneal nephrectomy. The wound apparently healed but required reopening on account of swelling and fluctuation. The walls of the cavity were found brown and soft, with gas bubbles in them and in the adjacent lumbar muscles. Energetic disinfection with potassium permanganate and iodin arrested the gangrene and the patient recovered. It appeared in another patient after removal of an arterio-venous aneurysm in the popliteal space requiring ligature of the artery above and below. The gangrene also invaded the stump two days after amputation, but was cured by reopening the wound and vigorous disinfection and medicinal measures every four hours. The popliteal vein in the amputated limb was found obstructed with a thrombus at the point of the lower ligature. The gangrene extended to the point of the upper ligature, where it ended abruptly in the midst of sound tissue. The bacillus aerogenes was found pure in the two last cases.

Therapie der Gegenwart (Berlin), July and August.

Lumbar Puncture in Children. O. KOHTS—Temporary improvement was observed in several cases of tubercular meningitis, but Kohts' personal experience confirms the danger of procedure in case of cerebral tumor or pronounced spina bifid His experience with it in cerebrospinal meningitis was decidedly favorable. Four have survived out of the seven cases i which lumbar puncture was applied, including two who recovered completely and one who was left somewhat deaf. Nett has also reported five recoveries out of six.

Cinnamic Acid and Leucocytosis in Tuberculosis. C KRAEMER.—Ten clinicians have published their experi with cinnamic acid in the treatment of tuberculosis. Th general verdict on the total of 186 patients is favorable to th remedy, and experimental research has established that action is due to the leucocytosis which it induces. The l cocytes wall off the tubercle and in time lead to its transformation or encapsulation. Other substances induce leucocyt but none combines such purity, solubility and non-toxicity wi such efficiency in even the smallest amounts.

Origin of Catarrhal Conditions of the Respiratory Pa sages. ADLER.—The theory proposed to explain hay and the non-infectious catarrhs of spring and fall, and of elderly people during the winter, assumes that the m lining of the upper air-passages has a different coat for mer and winter. Abrupt transition of the seasons causes t coat to be thrown off rapidly and a catarrhal condition r sults. Some persons are incapable of forming a suitable ep thelial coat for winter weather. In others the summer is defective and the light, odors and floating particles of du and pollen irritate the membrane, culminating in hay-feve All these conditions are based on insufficiency of the epitheli and preventive treatment should be formulated accordingly.

August.

Treatment of Sciatica with External Application Hydrochloric Acid. ELJASZ-RADZIKOWSKI. Twelve cases very severe and rebellious neuralgia, some of neuritic some of scoliotic origin, were all cured by painting the pa ful region with 20 gm. of pure hydrochloric acid at a time, four to eleven applications. In one of the cases the pati was so much improved by one application that he did not turn for further treatment. As the acid penetrates into tissues it is transformed into a harmless chlorid.

Treatment of Pulmonary Tuberculosis with Igazol. CERVELLO.—Fifty-five patients have been treated with ig since its invention fifteen months ago and 15 are now completel cured—appetite, strength, color and weight restored to norm These include 5 in the first stages, 1 quite severely affected, severely affected, and 2 very severely affected. T temperature had varied from 37.5 to 38.5 C. in 6 and 3 between 38.9 and 39.5. Fourteen are nearly cured, includi 6 severely and 2 very severely affected. The temperature in was 35.5 to 38.5, and in 3 was 39 to 40. Ten of the wh number were slightly improved; 5 grew worse; 1 stationary and 10 have died. Even in incurable cases th is always a pause or temporary improvement in the dis The fever vanishes in ten to sixty-four days; the effect on sputa is evident almost from the first. The appetite and g eral health also rapidly improve. (See THE JOURNAL p. 1438.

Wiener Medicinische Wochenschrift, August 25

Treatment of Ulcers with Superheated Air. K. U MANN.—The heated air is brought from a lamp on the fl through a tube into a large, bulging air-chamber with a comparatively small opening at the farther end, which fits close against the region of the ulcer, and is fastened with straps around the trunk. Most of the 50 cases Ullmann has treated in this way were old venereal ulcerations. In 19 cases of chancre the lesion was cured in four to five sittings together with phimosis when it existed. The most brilliant results were obtained in cases of phagedenic ulcerative processes of specific or non-specific nature. In two severe cases, the lesion on the glans penis had resisted all treatment for a year, but rapidly yielded to the dry, hot air. Its action was truly wonderful, Ullmann exclaims, on extensive and hard primary lesions or gummata. The only failure was one fistulous process in the scrotum, which was not improved.

Archivio di Psichiatria (Turin), xxi, 3.

The Hair in Degenerates. L. Battistelli.—Examination of 1000 subjects showed the great preponderance of the low and circular growth of the hair on the forehead, in degenerates, the aberrations and plurality of the vertices, the greater intensity and frequency of the atavistic erection of the hair under the influence of fright, and its greater resistance and vitality.

The Potential of Criminality. R. de la Grasserie.—A normal person may commit a crime by exceeding the limits of legitimate self-defense; there is criminality but no criminal. The born criminal may not have committed a crime; there is the criminal but no criminality. Between these two extremes are the persons who commit crimes from example, or on account of depraved environment. The first group should not be punished at all, except for the effect on the gallery. The second group is incorrigible and a permanent peril to society, against which all means of defense are justifiable. The third class is susceptible of improvement and a return to normal with new and elevating surroundings. Repetition of the specific crime and study of previous arrests are the chief means of detecting the born criminal, supplemented by anatomic and physiologic investigation, including his heredity.

Gaceta Medica (Mexico), September 15.

Retractor for Soft Parts in Amputations. J. Vertiz.—Two thin metal plates cut out in the shape of a very long and broad U are superposed, the ends reversed. The under plate has the edges turned up to form grooves in which the upper one slides into place, when the plates are applied to enclose the bone in the round hole left in the center between the concave portions of the superposed U-plates. The retractor is operated by a strip of gauze passed through a slit at each end.

Semana Medica (Buenos Ayres), August 23.

Subarachnoid Injections of Cocain. B. Podesta.—Grave operations on twenty-one patients were performed with anesthesia from intraspinal cocainization according to Tuffier's directions, injecting from 15 to 20 mg. of cocain in a 2 per cent. solution. There was slight headache for the following twelve to thirty-six hours in only five. None of the others experienced inconveniences of any importance. There was no nausea in any instance. Some of the patients had cardiac or pulmonary affections. All but one were men between 17 and 49. Ten of the operations were for inguinal hernia. The remainder included a vaginal hysterectomy, two laparotomies, stretching the sciatic nerve, removal of hydatid cyst of the liver, a tenotomy, costotomy for a purulent hemothorax consecutive to a stab wound of the lung, etc.

Change of Address.

C Bell, Washington, to 418 South Broad St., Philadelphia, Pa.
B. B. Brashear, Concord, to South Lancaster, Mass.
C. M. Braidwood, Lapeer, to Elba, Mich.
A. J. Black, St. Louis, to Wilton, Mo.
John Curwen, Warren, to 325 N. Front St., Harrisburg, Pa.
C. S. Hosmer, Nephi, Utah, to 406 E. Liberty St., Ann Arbor, Mich.
J. T. Hubel, 495 Gratiot Ave., to 460 Brush St., Detroit, Mich.
Elmer Lee, 9 W. 45th St., to 127 W. 58th St., New York City.
E. H. Moore, Whitehouse Station, N. J., to N. Y. Post-Graduate Med. School, New York City.
J. H. F. Mullett, 1312 Geddes Ave., to 210 13th St., Ann Arbor, Mich.
A. L. McNay, Gray Summit, to Pacific, Mo.
R. G. Olson, Muskegon, Mich., to 948 S. Robey St., Chicago.
E. G. Randall, Oneida to Waterville, N. Y.
C. J. Roberts, Warren Tavern, to Malvern, Pa.
J. R. Scott, Appleton, to Hortonville, Wis.
W. J. Swartz, 93 Cambridge St., St. Paul, to 2604 Bloomington Ave., Minneapolis, Minn.
O. Tydings, Piqua, O., to 225 Dearborn Ave., Chicago, Ill.
W. J. Taylor, 121 S. 18th St., to 1825 Pine St., Philadelphia, Pa.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Sept. 20 to 26, 1900, inclusive:

Edward Barry, acting asst.-surgeon, from Fort Wadsworth, N. Y., to San Francisco, Cal., en route to Manila, P. I., for duty in the Division of the Philippines.

W. Fitzhugh Conter, major and surgeon, U. S. A., leave of absence granted.

George E. Chamberlain, acting asst.-surgeon, from South Newbury, Vt., to San Francisco, Cal., for duty with troops going to the Philippine Islands.

Weston P. Chamberlain, lieutenant and asst.-surgeon, U. S. A., relieved from duty in the Division of the Philippines, to proceed to San Francisco, Cal., and report by letter to the surgeon-general.

Jere B. Clayton, lieutenant and asst.-surgeon, U. S. A., from Vancouver Barracks, Wash., to Fort Myer, Va.

Marshall M. Cloud, lieutenant and asst.-surgeon, U. S. A., sick leave granted.

James B. Ferguson, acting asst.-surgeon, leave of absence granted.

William M. Hendrickson, acting asst.-surgeon, from Fort McDowell, Cal., to Fort Flagler, Wash.

James H. Hepburn, acting asst.-surgeon, leave of absence granted.

James H. Hysell, major and surgeon, Vols., relieved from duty in the Department of Eastern Cuba, to report to the surgeon-general at Washington, D. C.

Thomas J. Kirkpatrick, lieutenant and asst.-surgeon, U. S. A., from Fort Myer, Va., to Fort Barrancas, Fla.

William J. Lyster, acting asst.-surgeon, leave of absence extended.

Champe C. McCulloch, Jr., captain and asst.-surgeon, U. S. A., from Fort Barrancas, Fla., to San Francisco, Cal., en route to Manila, for duty in the Division of the Philippines.

John L. Nicholson, acting asst.-surgeon, from Dorchester, Mass., to San Francisco, Cal., for duty with troops going to the Philippine Islands.

Henry Page, lieutenant and asst.-surgeon, U. S. A., relieved from duty in the Division of the Philippines, to proceed from San Francisco, Cal., to Plattsburg Barracks, N. Y., for duty at that post.

William H. Spiller, acting asst.-surgeon, from the transport *Grant* to duty on the transport *Hancock*.

William T. Tanner, acting asst.-surgeon, from Fort Myer, Va., to duty at Fort Wadsworth, N. Y.

Stephen Wythe, acting asst.-surgeon, from Fort Flagler, Wash., to San Francisco, Cal., for assignment to duty in the transport service.

ASSIGNMENTS.

On September 26, 1900, the following assignments of medical officers of volunteers to the organizations and upon the dates specified after their respective names, as they appear of record in the War Department, were published:

Maj. John R. Hereford, surgeon, Jan. 26, 1900; Capt. William H. Cook, asst.-surgeon, Jan. 26, 1900; First Lieut. Frank W. Dudley, asst.-surgeon, Jan. 27, 1900, to the 32d U. S. Vol. Inf.

First Lieut. Raphael A. Edmonston, asst.-surgeon, Mar. 1, 1900; First Lieut. H. Brookman Wilkinson, asst.-surgeon, June 16, 1900, to the 34th U. S. Vol. Inf.

Maj. Eugene L. Swift, surgeon, Nov. 12, 1899; Maj. Luther P. Grandy, surgeon, Mar. 9, 1900; Capt. John A. Metzger, asst.-surgeon, Mar. 9, 1900; First Lieut. John Carling, asst.-surgeon, Mar. 9, 1900, to the 35th U. S. Vol. Inf.

Maj. Paul F. Straub, surgeon, July 12, 1899, to the 36th U. S. Vol. Inf.

First Lieut. Edward D. Sinks, asst.-surgeon, Aug. 14, 1899, to the 37th U. S. Vol. Inf.

First Lieut. George S. Wallace, asst.-surgeon, Aug. 30, 1900, to the 42d U. S. Vol. Inf.

Maj. Frank E. Artaud, surgeon, July 24, 1900; Capt. William C. Berlin, asst.-surgeon, July 30, 1900, to the 45th U. S. Vol. Inf.

Maj. Charles F. Kieffer, surgeon, Sept. 12, 1899; Capt. Howard A. Grube, asst.-surgeon, Sept. 12, 1899; First Lieut. William W. Purnell, asst.-surgeon, Sept. 13, 1899, to the 48th U. S. Vol Inf.

Maj. Robert Burns, surgeon, June 24, 1900; Capt. William C. Warmsley, asst.-surgeon, June 28, 1900; First Lieut. Joseph H. Carroll, asst.-surgeon, June 14, 1900, to the 49th U. S. Vol. Inf.

Maj. Alexander D. Ghiselin, surgeon, April 4, 1900; Capt. Shadworth O. Beasley, asst.-surgeon, April 4, 1900; First Lieut. Stanley MacC. Stuart, asst.-surgeon, April 4, 1900, to the 11th U. S. Vol. Cav.

Capt. José Lugo-Vina, asst.-surgeon, Mar. 28, 1900; First Lieut. Gustave Moret, asst.-surgeon, April 21, 1900, to the Porto Rico Regt.

Capt. Maxwell S. Simpson, asst.-surgeon, June 1, 1900, to the Squad. Phil. Cav.

Navy Changes.

Changes in the Medical Corps of the U. S. Navy for the two weeks ending Sept. 29, 1900:

Surgeon C. T. Hibbett, detached from the Cavite naval station and ordered to the *Newark*.

Surgeon O. D. Norton, detached from duty with the marine regiment in China and ordered to the *Monadnock*.

Asst.-Surgeon F. L. Benton, detached from the naval hospital, Cavite, P. I., and ordered to the *Brooklyn*.

Medical Director J. A. Hawke, detached from the New York navy yard and ordered to duty at the naval hospital, Mare Island, Cal.

Medical Inspector G. P. Bradley, detached from the naval hospital, Mare Island, Cal., on reporting of relief, and ordered home and to wait orders.

P. A. Surgeon G. D. Costigan detached from the *Newark* and ordered to the *Yorktown*.

Asst.-Surgeon E. Davis detached from the *Yorktown* and ordered to the Cavite naval station.

Asst.-Surgeon M. K. Elmer detached from Boston navy yard and ordered to accompany battalion of marines to Mare Island, then to duty on the *Ranger*.

Asst.-Surgeon J. C. Thompson detached from the *Newark* on reporting of relief, proceed home and wait orders.

Asst.-Surgeon W. B. Grove, ordered to duty on the *Vermont*.

Asst.-Surgeon H. E. Odell, detached from the *Ranger* on reporting of relief and ordered to Asiatic station with battalion of marines for duty as relief of Asst.-Surgeon J. C. Thompson.

Surgeon B. F. Stephenson, detached from the *Baltimore* when out of commission; ordered to examination for promotion at Washington yard, thence home and wait orders.

Asst.-Surgeon W. H. Bell, relieved from additional duty at Norfolk Hospital and ordered to continue duty on the *Vixen*.

Asst.-Surgeon H. A. Dunn, previous orders modified, ordered to report for duty on *Dorothea*, instead of proceeding home.

Asst.-Surgeon K. Ohnesorg, detached from the naval academy and ordered to the *Vicksburg*.

Asst.-Surgeon A. Stuart, detached from the *Fortune* and ordered to resume duties on the *Yankton*.

Asst.-Surgeon E. V. Armstrong, ordered to report to commandant of New York yard for duty on the *Vermont*.

Medical Director C. U. Gravatt, commissioned medical director from August 24.

Surgeon G. B. Wilson, commissioned surgeon from February 7.

Pharmacist R. Waggener, ordered to duty at naval proving grounds, Indian Head, Md.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Aug. 10, 1900:

SMALLPOX—UNITED STATES.

Alaska: Port Safety Aug. 25; reported.

Colorado: Aug. 9-Sept. 11; Arapahoe County, 3 at Denver; El Paso County, 2; Fremont County, 3; Garfield County, 3; Glenwood Springs, 2; Huerfano County, 3; Las Animas County, 4; Pueblo County, 21.

Louisiana: New Orleans, Sept. 15-22, 6 cases, 2 deaths.

Michigan: Houghton, Sept. 8-15, 2 cases; Torch Lake, Sept. 8-15; 2 cases.

Ohio: Cleveland, Sept. 15-22, 6 cases.

Utah: Salt Lake City, Sept. 15-22, 3 cases.

Wisconsin: Sept. 18, Ashfield County, present; Bayfield County, present; Dane County, present; Eau Clair County, present.

SMALLPOX—FOREIGN.

Austria: Prague, Sept. 1-8, 1 case.

Belgium: Ghent, Sept. 8-15, 1 death.

Egypt: Alexandria, Aug. 28-Sept. 3, 1 case; Cairo, Aug. 18-26, 3 cases.

England: Liverpool, Sept. 1-8, 3 cases.

France: Lyons, Aug. 25-Sept. 1; 2 deaths; Paris, Sept. 1-8, 5 deaths.

India: Bombay, Aug. 21-28, 2 deaths; Calcutta, Aug. 11-26, 18 deaths; Madras, Aug. 11-24, 2 deaths.

Mexico: Vera Cruz, Sept. 8-15, 4 deaths.

Russia: Moscow, Aug. 25-Sept. 1, 1 death; Odessa, Aug. 25-Sept. 8, 7 cases, 1 death; Warsaw, Aug. 25-Sept. 1, 5 deaths.

Scotland: Dundee, Aug. 25-Sept. 1, 2 cases; Glasgow, Sept. 7-14, 31 cases.

Spain: Madrid, Aug. 11-Sept. 1, 111 cases.

YELLOW FEVER.

Cuba: Cienfuegos, Sept. 22, 1 case; Havana, Sept. 8-15, 9 deaths.

Mexico: Vera Cruz, Sept. 8-15, 15 deaths.

PLAGUE—FOREIGN.

India: Bombay, Aug. 21-28, 64 deaths; Calcutta, Aug. 11-25, 136 deaths.

Scotland: Glasgow, Aug. 31-Sept. 14, 16 cases, 1 death.

CHOLERA.

India: Bombay, Aug. 21-28, 408 deaths; Calcutta, Aug. 11-25, 29 deaths; Karachi, Aug. 19-29, 13 deaths; Madras, Aug. 18-24, 37 deaths.

Japan: Yokohama, Aug. 25-Sept. 1, 1 case.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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Original Articles.

REPORT OF THE COMMITTEE ON TUBERCULOSIS.

At the Columbus meeting of the American Medical Association, June 6-9, 1899, the following resolutions were adopted:

Resolved, That the president appoint a committee of five with power to add to that number, who shall prepare a report on the nature of tuberculosis; its communicability and prevention; the more effectual means of controlling the spread of infection and of educating the people in personal hygiene, so as to lessen the chances of their becoming tuberculous and to increase the prospects of their recovery; the advisability of establishing national and state sanitoria, and such other matters as may be pertinent to the subject.

Resolved, That this committee shall present this report to the Congress of the United States and to the legislatures of the various states of the Union and urge upon them that appropriate measures be speedily taken.

To the President and Members of the American Medical Association:

Gentlemen:—Your Committee on Tuberculosis appointed in pursuance of a resolution of the meeting of 1899, was instructed to report on the general subject of tuberculosis, as to: 1, its nature; 2, its communicability; 3, its prevention; 4, the control of the spread of the disease and the education of the people so as to lessen their chances of infection and their prospect of recovery when infected; and 5, on the advisability of national and state sanatoria.

In presenting this preliminary report your committee finds it unnecessary to deal at any great length with the first two sections of the subject assigned.

1. Tuberculosis is a disease of many tissues of the body, due to the growth therein of the tubercle bacillus, which finds for some reason a favoring culture field in the organs. Granular minute bodies, known as tubercles, are produced, whose tendency is to necrosis and the setting up of the process of suppuration. Poisoning of the system in varying degrees results from both of these processes, and important organs and functions are interfered with and so death follows in a large proportion of cases.

The exact mortality of tuberculosis can not be stated, for all the cases can not be counted, since many are undiagnosed and many are suppressed; but in this country it probably amounts, in towns, to not far from 14 per cent. of all deaths, and it is easily demonstrated that the pulmonary form reaches 9 to 11 per cent. of all deaths. In the country, as a whole, the mortality from all forms of tuberculosis is probably considerably below 14 per cent.; possibly not over 12 per cent. In upward of forty towns and cities of the United States, which for the year 1897 reported their deaths from consumption, the mortality from this disease was 10.9 per cent. of the total mortality. Tuberculosis kills thirty times as many as die from smallpox and scarlet fever together, and four and a half times as many as from these two diseases with typhoid fever and diphtheria combined. The figures thus show that this is the most destructive disease extant. It is, moreover, the one least subject to fluctuation; the most constant from year to year. Domestic animals furnishing the food of man are afflicted with it, and bacilli are found in the milk and butter derived from them. It is intertransmissible with them.

It is difficult to state the morbidity of human tuberculosis. Pathologists give varying figures as based on post-mortem examinations, of 40 to 75 per cent. of all people as being afflicted with it in some portion of their bodies some time in their lives. Probably a fairer figure would be 50 per cent.

2. Tuberculosis is a communicable disease; is carried from person to person as a specific bacterium which enters the body and thrives variously or dies, depending on the personal susceptibility of the individual. This varies in different bodies and in the same body from time to time, and is increased by ill-health, unhygienic conditions of life, starvation and overwork, and by hereditary predisposition. It is decreased by bodily vigor, outdoor life, good hygiene and perfect physiological functions.

Tubercle bacilli are very prevalent in the atmosphere of cities and towns, and not all people who imbibe them take tuberculosis, but only those with a power of resistance that is too low either to destroy them or to render them innocuous.

The bacilli are acquired mainly through the air, which carries them directly into the mouth, nasal passages, throat, trachea and lungs. Bacilli taken into the mouth and throat are mostly swallowed, and, if not destroyed by the acids of the stomach, pass into the intestines, sometimes to set up tuberculosis there. The microbes are doubtless often swallowed in milk, and are carried to the mouth by polluted utensils, by things chewed, and possibly by the kiss of infected persons. Some bacilli find their way into the lymphatics and blood-vessels, and so are disseminated through the system, possibly to start foci of disease in distant parts of the body.

3. As to prevention a larger word is to be said. Complete suppression of the disease is too much to hope for, but it is possible to limit to some degree the spread of it, and the necessary measures should engage the most earnest and sustained attention, and have the insistent support of every member of the medical profession. The first step to the accomplishment of this end is to reduce the number of tubercle bacilli in the air we breathe. The disease is largely air-borne, and our duty is obvious. The following are practical measures: *a.* Destruction as far as possible of all tuberculous sputum, either by fire or by chemical agents in spit receptacles. *b.* Careful disinfection of contaminated clothing, utensils and rooms—clothing and utensils by heat, either dry or moist, and rooms by formalin. *c.* Careful management of the patient in his person, and especially as to his expectoration. *d.* The segregation of infected persons, in whom the disease is active, under the care of nurses competent to prevent them from contaminating the atmosphere.

The next step is to protect food-stuffs, especially milk and meat, from contamination. This necessitates the careful and constant inspection of dairy herds, the creation and enforcement of wholesome rules of [illegible] and [illegible]truction of all seriously sick cattle.

Then the people, especially [illegible] posed to the disease, need to be [illegible] of robust, not to say athletic, [illegible]d-ard is dangerous. Comparative freedom from contact with the bacilli is the greatest desideratum; it is only less important, as people can never be wholly free from them, that they should have the greatest power to resist their multiplication in the body. The largest influences to this end are a life much in the open air and perpetual freedom from every excess in any possible direction.

4. How can the people be educated to prevent the spread of tuberculosis, and when infected how can they have larger hope of recovery?

The lessons on this point should be as few as possible, so as to avoid confusion and the scattering of public attention. They should be consistent, and contain nothing unnecessary. A few cardinal doctrines ground into public thought will be more effective than a hundred casual details. They should carefully avoid unproved theories and impracticable measures; nothing blights a good reform movement so surely as these. They should be such, and only such, as will command the unanimous approval of the profession, so that there shall be no confusion of tongues or advice. They should be limited, in the burdens they impose on the public, to such measures as will appeal to its common sense, and not provoke antagonisms or unnecessary hardships. These are cardinal truths: *a.* We must enlighten the people as to the nature of tuberculosis and the method of its distribution. *b.* The urgent sick should, if convenient, be segregated somewhat from the well, and be sent to sanatoria if possible. If they live with their families they should know and obey the rules of proper personal care and conduct. The practice of keeping consumptives ignorant of the nature of their disease, when they are expectorating billions of bacilli every day, is a crime against the community. They are usually less shocked by the truth than their friends are, and knowing it, they are more ready to join in measures for their own good and for the protection of others. *c.* All spitting on floors, sidewalks and public conveyances must be discouraged and forbidden by law. Expectoration should be received into articles that can be burned or disinfected, and its destruction should be insisted upon. Long exposure to sunshine kills the bacilli, but when infected sputum is cast out upon the ground the possibility is great—except in regions of the most intense sunshine—that before it is rendered harmless it will become to some degree part of the dust of the air, to the danger of the community. *d.* The tuberculous must not wear long beards, nor allow their mouths to carry infection to others; and contaminated clothes should be frequently sterilized by heat. At least in the houses of expectorating tuberculous patients, carpets are an abomination, and the sweeping of rugs even should be forbidden. *e.* The truth should be inculcated that only the most scrupulously careful patients of those who expectorate much can avoid contaminating their clothes and articles about them, and that, therefore, the watchfulness should be perpetual. *f.* It requires most exceptional nursing of a consumptive who expectorates much, to prevent contamination of his room. Therefore it ought to become public policy that health officers should, in their discretion, as a general rule, when they receive reports of death from pulmonary tuberculosis, require that the rooms in which the patients died shall be immediately disinfected. The only exceptions should be where the proof is positive that perfect cleanliness has been maintained throughout the sickness. *g.* The people ought to be instructed that when one is seized with tuberculosis—especially that form which leads to consumption—there should be immediately adopted a radical plan of management of the case, to include, as far as possible: a reduction in labor and care; a change in surroundings and conditions of life; a life either quite out-of-doors, or, if in-doors, with as much fresh, pure air as possible; the greatest amount of rest and sleep; the best nourishment suited to delicate digestion, and taken oftener than is usual in health; and a sharp reduction in exercise if fever is present. Conservative medical treatment, to be prescribed by the physician, is useful but secondary. The foremost purpose must be to increase the resisting power of the body to the disease. Thus only does recovery come, and the greatest single measure to this end is probably the out-door life. Consumptives should become out-door instead of in-door animals. The chief advantage of good climates for the disease is in the possibility of the patient's living out of doors, although dryness of air is valuable and altitude has benefit for many cases. *h.* Nothing will be gained in this day and generation by attempting to secure by law the reporting to health officers of all cases of tuberculosis. Many physicians will never report their cases frankly; they will hide them, treat them under inaccurate and unscientific diagnoses, conveniently forget and even prevaricate, and their patients will sustain them. Such laws already enacted are dead. It has been and will be found impossible to execute such a rule, as to any disease that is never epidemic, but invades the bodies of half the people, many of whom go about in apparent health for years, and forget that they are seriously sick. And even if the health departments had the reports they could not serve any useful purpose except for statistical generalization; a purpose that is frustrated by the comparative worthlessness of all such records. *i.* All tuberculous farm stock, especially all animals whose bodies or products become food, if manifestly sick must be destroyed, and at public expense if not otherwise. But many mildly tuberculous cattle, like men, recover when given a better physiological chance; and recent events have shown that legalized attempts to destroy, to the burden of the community, large numbers of domestic animals that have all the appearances of health, sometimes meets with such opposition as to frustrate the whole beneficent scheme. We ought to have known and expected this, and it is pertinent to ask if it is important that meat shall be always free from a final few tubercle bacilli, that are killed by cooking, when fed to people a large percentage of whom have live bacilli in their own bodies. It would be better to try to educate the people to pasteurize their milk and always cook their meat, and to adopt a temperate destructive policy as to cattle, and a strenuous policy of care and segregation of slightly tuberculous stock, rather than, with measures that are open to the fair charge of being too radical and sweeping, to arouse a reaction that shall every few years sweep from the statutes of a state all the really necessary laws of this kind.

5. The sanatorium idea is increasing in this country. It is becoming popular as it has grown in popularity abroad, and it offers the greatest hope for tuberculous patients. The people are beginning to discover the value of regular sanatorium management for the cure of this disease. The cure depends vastly on an increase of the specific resisting power of the patient, and this can be accomplished best by hygienic measures carried out faithfully without a break for many months at a time. Fresh air, out-door life and a regimen of rest, diet, exercise and sleep which tend to increase the physiological forces that destroy or repress the bacilli, are the most important measures. Patients *may* carry out these measures by themselves, under advice and with a special nurse for each case, but usually they do not, but blunder at least one day in the month, by some excess or omission, and so neutralize all their previous gain. The sanatorium properly managed offers the best means up to this hour, for the cure of the average case.

The world was slow to learn that the sick with acute diseases deserve to be nursed by expert hands; that the trained nurse, moved by professional ambition and pride of success, makes for comfort and recovery to a patient, better than the casual care of unskilled strangers, or the agitated excess of inefficient friends. We are only just learning that people in the slow clutch of the most mortal of all maladies deserve a similar expert skill in their care, and to have it continued without interruption through the months and years if need be. The victim of a familiar, creeping death that is avoidable, is as much entitled to consideration as if he had the swift plague. Our virtue is apt to be spasmodic; we rouse ourselves for the relief of imminent disaster. It is a soberer and wiser virtue that creates and sustains measures to repress an insidious calamity.

Sanatoria for consumptives should be established all over the country. They are springing up with encouraging rapidity, but nearly all of them, so far, are for the people able to *pay. The majority of patients are unable to pay for institution care or for change of climate, and they are as deserving as any. To these the state owes a debt that is as genuine and urgent as any it owes to its other unfortunate citizens, and the state should erect and maintain sanatoria for them. Moreover, by saving the lives of a portion of these patients, and circumscribing the spread of tuberculosis, the state will always in the end be the gainer in wealth. We hold that it is the duty of* The American Medical Association, *not merely by the mouth of a committee on tuberculosis, but by its general membership as well, to urge on the legislative bodies of the states and the nation the surpassing necessity of these measures.*

6. There has been much discussion during the past year over a proposition to exclude by quarantine regulations, consumptives from two states of the union that have been resorts for such patients. We are not aware that the suggestion has even been seriously considered by any medical body, or by the profession at large. But it is true that there has grown up among some of the citizens of those states an impression that all of the recent increase of tuberculosis originating within their borders is directly chargeable to the numerous cases that have migrated to them. This is probably in part true. But these regions have more and more vivid sunshine than other parts of the country, so that bacilli that are out of doors are more likely to be killed. The contamination of the localities, if it has occurred, is most probably from infection of habitations through ignorance and carelessness; and this is an argument for the institutional care of as many cases of tuberculosis as possible, and for disinfection of certain houses, as we have recommended.

Whatever else the states referred to, or other resorts for consumption may or ought to do for their own protection, we are convinced that it will be impossible to do it by general exclusion. Not 10 per cent. of the cases journeying thither could be excluded by the most rigid quarantine, and any effort to do this effectively would arouse intense popular opposition, as the mere discussion of the subject has done already. At the same time it would tend inevitably to divert attention from the proper care of the cases from day to day, as the only feasible means of protection for the public.

Norman Bridge,
W. A. Evans,
Paul Paquin,
Committee.

RESOLUTIONS ON TUBERCULOSIS ADOPTED BY THE SECTION ON HYGIENE AND SANITARY SCIENCE.

Whereas, There is large demand for official statement relative to some of the questions pertaining to tuberculosis; therefore we

Resolve, That, 1. It is best that the policy of medical societies, medical officers and medical men be one of education;

2. Steps for the suppression of tuberculosis in this country must be so gradual that organized opposition shall not be engendered;

3. It is the duty of every national, state and municipal government to distribute tracts, arrange for lectures, and in every feasible way educate the people along the following lines: a, tuberculosis is contagious; b, it is preventable; c, it is curable; d, it is eradicable;

4. Every citizen of the United States having tuberculosis should have the privilege of living in a tuberculosis hospital; every such citizen should be strongly advised to accept such privilege;

5. Hospitals for cures are almost as essential as hospitals for homes;

6. A temporary residence in a tuberculosis hospital (if the patient can not remain) is desirable, as in such a residence hygienic laws, regulation of expectoration and danger from contagion can be inculcated;

7. Crowding, bad ventilation and bad drainage are potent factors in the propagation of the disease; this applies as strongly to animals as to man;

8. The present method of arrangement and management of eleemosynary institutions, and especially those in which restraint is a factor, are productive of tuberculosis;

9. The condition of the animals furnishing food in the vicinity of large cities is a subject for consideration by the authorities;

10. While American statistics are so incomplete as to be misleading, nevertheless, it is our opinion that the death-rate from tuberculosis in this country (rural and town population together) *does not exceed one-ninth of the death-rate from all causes;*

11. While the number of people dying from tuberculosis appears to be decreasing, nevertheless, excluding pneumonia, tuberculosis destroys more lives than all the remainder of the contagious diseases combined;

12. This Section should continue a committee on tuberculosis;

13. The proceedings, papers, statistics, etc., of this committee should be published;

14. That the secretary of this Section be instructed to communicate with the business committee of the general Association relative to these resolutions.

STATE PROVISION FOR THE TREATMENT OF THE CONSUMPTIVE POOR.*

BENJAMIN LEE, A.M., M.D.
Secretary of the State Board of Health of Pennsylvania.
PHILADELPHIA.

The only ground on which state charities can be justified is that of self-protection. In the case of the dependent classes, such as the insane, the deaf-mutes and the blind, protection against injury to life and property, or against the loss to society arising from enforced idleness and lack of education on the part of the sufferers, furnishes the excuse. In the case of infectious diseases, the danger to health and life from the extension of such disease justifies the erection of contagious-disease hospitals of all kinds and the expenditure of large amounts of money in the establishment and maintenance of quarantine stations. The foundation and support of hospitals simply for the relief of suffering and healing of diseases is, from the standpoint of strict political economy and true statesmanship, a flagrant misuse of public funds, and leads to serious abuses.

In the year 1898, the legislature of Pennsylvania appropriated more than three-quarters of a million dollars for the support of general hospitals, every one of which should have been sustained entirely by the community to whose poor it ministered. To lavish the public wealth in this way is simply to create a fund for the manufacture of paupers.

It is only the comparatively recent but now universally accepted discovery of the communicability of tuberculosis which has made it possible for a sanitarian to urge the state to contribute to the care of the consumptive poor, as such. So long as consumption was simply due to heredity and general environment, such a plea had no basis in any proper conception of the duty of the government to the individual. Granted that one person in fifty was affected with tuberculosis, and that there were over a million and a quarter cases of consumption in the United States, what business was that of the state? People must die of something. Why not as well of consumption as of heart disease or Bright's disease? And if there was suffering among the poor consumptives, that was a matter for consideration and relief by private philanthropy. But once admit that consumption is an infectious and therefore a preventable disease, and presto, the whole situation is changed. The state is losing tens of thousands of valuable productive lives prematurely and unnecessarily every year. Thousands more are wasting their time in taking care of those who are thus slowly dying. Here is a terrible leak in the public resources, a leak which we now know how to stop and which, therefore, we must stop. That which would before have been an unwarrantable and vicious use of the public treasure now becomes an imperative duty on the part of the state as the custodian of the material prosperity of its people. To put the matter in a nutshell, preventive medicine is the legitimate work of the state, remedial medicine is not, except so far as it may incidentally be preventive.

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*Presented in a Symposium on Tuberculosis, in the Section on Hygiene and Sanitary Science, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

On the evening of the tenth day of January of the present year, a meeting of great interest in this regard was held in the city of Philadelphia. This was a joint meeting of the Philadelphia County Medical Society and the Pennsylvania Society for the Prevention of Tuberculosis. The subject for discussion was "The Duty of the State Toward Those Afflicted with Pulmonary Tuberculosis." It may not be generally known that many members of the Pennsylvania Society for the Prevention of Tuberculosis are not physicians. The object of drawing together associations thus differently constituted, was, as stated by the president of the Philadelphia County Medical Society, "through joint discussions to bring about more intelligent co-operation between physicians and the members of the general community in the preservation of the public health." All of the liberal professions and the mercantile community were represented among those who read papers or participated in the discussions. The subject was therefore treated from many standpoints, and in each instance by one well qualified by experience to speak. Boston and New York as well as Philadelphia contributed to the interest and value of the occasion. What I shall say at the present time will be mainly gathered from the report of this meeting, and I shall make no further apology for borrowing either the arguments or the facts then presented. I have already had occasion to call the attention of this Section to the admirable work of the Pennsylvania Society for the Prevention of Tuberculosis, and to urge upon members the importance of establishing similar societies in their own cities and states. The founder and first president of this society, Dr. Lawrence F. Flick, of Philadelphia, read the first paper of the evening, in which he unfolded the plans of that association. Their program was first of all education, not of the legislators only, but of the entire people. For this purpose great numbers of tracts, clearly expressed, in popular style, had been distributed, on such subjects as, "How Individuals Can Avoid Consumption," "How Consumptives May Avoid Giving It to Others," "What Storekeepers, Hotel-keepers and Others Might Do to Aid in Its Prevention." The registration of tuberculosis, both in human beings and domestic animals, is also urged. But beyond all other measures in practical efficiency was placed the establishment of hospitals and sanatoria for consumptives. It was claimed that in England during the last half century a reduction of 50 per cent. in the death-rate from consumption had been brought about by the establishment of consumptive hospitals. There would be not the slightest necessity for compulsory isolation even were it considered important, as hundreds of poor consumptives are knocking at hospital doors for admission and are turned away hopeless, to suffer, linger and die, and in the meantime communicate the disease to their families and infect the houses in which they live. From having been considered a hereditary, incurable and ineradicable disease, consumption is now, on the contrary, looked upon by the profession as: 1, not hereditary but acquired; 2, as to a considerable extent amenable to treatment, and, 3, as possible of eradication as a scourge of the race by known methods. It is safe to claim that at least 20 per cent. can be cured, and 10 per cent. more can have the disease arrested, which amounts practically to the same thing. In Dr. Turban's sanatorium, at Davos, in Switzerland, of those in the third or advanced stage, 23.6 per cent. were absolutely or relatively cured, and 17 per cent. were found to have remained so, when communicated with, years later.

The results obtained by the establishment of sanatoria for consumptives as private enterprises in Europe, and notably in Germany, were so gratifying as to lead the charitably inclined to feel that a burden of responsibility had thus been laid upon them for the extension of opportunities of this kind to those who were unable to pay for them. To such an extent has this idea been realized that in England there are now accommodations for about 5000 of these sufferers, either in hospitals for advanced cases, or in sanatoria for those in the earlier, more curable stages. In the city of London there are six special hospitals of this kind. In the city of Philadelphia we have four. These are, 1, the Home for Consumptives, connected with which is the House of Mercy, for male consumptives, conducted by the Protestant Episcopal City Mission; 2, the Rush Hospital; 3, the Free Hospital for Poor Consumptives, which at the present time simply avails itself of certain wards in existing hospitals, and 4, the Jewish Hospital, which has set apart ten free beds for consumptive patients. The first named accommodates and treats an average of 119 patients annually; the second about 70, and the third 40.

In addition to these, the Philadelphia Hospital, connected with the Almshouse, has certain wards set apart for consumptives. But, "what are these among so many?" In the year 1898 the deaths from consumption in that city were 2590. The provision for the treatment of poor consumptives was actually for 297. The financial loss to the city from these premature deaths may safely be put down at $2,590,000, to say nothing of the loss of production during long illness. The state of Pennsylvania cares for 6000 insane, 3000 feeble-minded, deaf and dumb and blind, and 12,000 paupers. At least 15 per cent. of the insane die of tuberculosis, and yet no adequate special provision is made for their care by the state. General hospitals are justified by their responsibility for the health of their other inmates, which would be endangered by the presence of consumptives, in refusing the latter admittance to their wards. With our present knowledge such an intermingling, so far from being an act of mercy, would be little less than a crime. But it is not less a crime to allow this immense class of sufferers to go without hospital opportunities for care and treatment. The legislature of Pennsylvania passed an act some years since, appropriating the sum of $50,000 for two years, to be used by the State Board of Health, under certain restrictions, for the suppression of epidemics, prevention of diseases, and protection of human life in times of disease and disaster, when, in the opinion of the board, the conditions are so grave that "the local health authorities and individual and organized charity are unable to meet the emergency." It would be impossible to lay down in more definite terms the nature of the responsibility of the state for the furnishing of medical aid, or the limitations which should control such action on the one hand, or on the other to describe more accurately the character of the dangers which constantly threaten human life in the prevalence of consumption. They are of such enormous proportions that the local authorities and individual and even organized charity are utterly unable to cope with them. But we have, unfortunately, become so habituated to them that to declare that they constitute an "emergency" would only provoke a smile on the part of the officials who are entrusted with the disbursement of the fund. It has come to be considered the proper thing that one-seventh of our population should be cut off in the middle of its days, at the time of its greatest value to the state, by this single scourge. Hence, it becomes the duty of those who do appreciate the true proportions of this problem to become missionaries to spread abroad the knowledge both of the curability and the preventability of consumption, and at the same time of the necessity for hospital provision on a generous scale to secure these ends. Once the public has thoroughly grasped these ideas, legislators will not be slow in yielding to the pressure which will be brought to bear upon them for making such provision. In Europe this movement is already making encouraging headway. In Germany, France, Great Britain, Sweden, Belgium, Holland, Spain and Roumania much has been accomplished. As is well known, so great an interest has been excited that an International Congress of Tuberculosis has been held, attended not only by physicians and philanthropists, but by government officials and members of royal houses. The Swedish parliament recently voted 850,000 crowns for a sanatorium for consumptives in South Sweden and a gift of 2,200,000 crowns from the people to King Oscar has been, with a liberality as intelligent as it was generous, devoted by him to the establishment of similar foundations in northern and central Sweden. In this country we are not without encouraging signs. The New York State Board of Health has adopted resolutions urging the early construction of a State Sanatorium for Consumptives in the Adirondacks, at a cost of not less than $200,000. The legislature of that state has already pased a bill authorizing large cities to establish hospitals for sufferers from tuberculosis. Massachusetts has already in operation an institution of this kind at Rutland, which cost $150,000. In Illinois an effort is being made, with fair prospect of success, to obtain the assistance of the state in erecting a sanatorium to accommodate 300 patients. Similar enterprises are under consideration in Indiana and other states. In Pennsylvania an admirable site, comprising about five hundred acres on a mountain slope of about 1250 feet elevation, has been offered to the Pennsylvania Society for the Prevention of Tuberculosis, so soon as the funds can be obtained either from individuals or from the legislature for erecting the necessary buildings. The United States Government has established a sanatorium at Fort Bayard, N. M., for the care of such of its soldiers as may become affected with the disease. A movement which has already achieved so great a measure of success can not be stayed. The day is certain to come when state governments will recognize their responsibility in this regard, and there are those present who will live to see, in consequence, an immense diminution in the prevalence and mortality of a disease which at this moment is disabling to a greater or less extent a million and a quarter of the people of this country and which kills four and a half times as many as smallpox, scarlet fever, typhoid fever and diphtheria combined.

SOME THOUGHTS ON OVERCROWDING AND TUBERCULOSIS.*

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I have been requested by the Secretary of the Committee on Tuberculosis, appointed by the President of The American Medical Association, to write a few words on the etiology of tuberculosis, more particularly on the relation which overcrowding bears to the frequency of consumption. To offer something new in this line is really difficult, for the subject has been treated so many times by abler minds than my own.

In some of my previous publications[1] I have spoken of numerous visits made to the tenements of New York, of the heartrending conditions I have found there among consumptives, and of the sweatshops as agents in the propagation of disease, but, after all, I presume it can not be repeated too often that the tuberculosis problem, especially in our large cities, will never be solved unless we begin by improving the sanitary condition of the tenements. There should be laws to make the building of any but model tenement houses impossible, and overcrowding should be made punishable. Let this inhumanity to man no longer be permitted. Let the greedy owner of the dark, filthy tenement house, who is not content unless he makes 18 per cent. on his investment, feel the strong hand of the law whenever by the violation of the health ordinances the lives of his tenants become endangered. How can we ever hope, even with numerous sanatoria and special hospitals, to reduce in any marked degree the morbidity and mortality from tuberculosis, as long as we allow the main conditions which favor the propagation of the disease to exist or to be daily created anew? First among these we must mention the conditions which have a tendency to undermine the constitution, bringing about a state which we might call physiological poverty, that is to say, a condition in which the natural organs of defense are no longer capable of throwing off pathogenic micro-organisms, to the inhalation of which all of us are perhaps more or less exposed. A family of from six to ten, living in three rooms, of which perhaps one only receives direct light and air, can not possibly remain in a state of health for any length of time. The vitiated air is breathed over and over again, and even the desire for breathing naturally and deeply, if it ever existed, will become less and less. But besides this lack of air and light, intemperance and underfeeding—two evils which to my mind are not infrequently the result of the overcrowding of the cheerless homes of the toilers—aid to create in the human organism the very best soil for the invasion, growth and development of the tubercle bacilli.

The second condition which favors the propagation of tuberculosis is the almost absolute lack of precaution taken by consumptive patients dwelling in these tenements to dispose of the infectious sputum. These patients, still able to be about, will disseminate their disease by expectorating indiscriminately in the dark hallways, in their workshop, or wherever they may happen to be. The patients in the more advanced stages of the disease, who, owing to lack of hospital facilities, must remain in the dark bedrooms where any effective prophylaxis is impossible even with the best intention, constitute, of course, permanent local centers of infection.

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* Presented in a Symposium on Tuberculosis, to the Section on Hygiene and Sanitary Science, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

[1] "Pulmonary Tuberculosis; Its Modern Prophylaxis and the Treatment in Special Institutions and at Home." P. Blakiston's Son & Co., Philadelphia, 1899. "The Tenements and Tuberculosis," The Journal, May 12, 1900.

Some phthisio-therapeutists and sanitarians think that the compulsory reporting of all cases of consumption would materially reduce these foci of infection. The impracticability of such measures seems evident when we consider that nearly every sixth individual is suffering from tuberculosis in some form or other. Even where such laws exist my experience has convinced me that the cases not reported and not treated are more numerous than the reported and treated ones, and that those once reported, if not taken to a special institution, will often be obliged to move, or will move voluntarily, and so again sight and control of them are lost.

We must do away with the overcrowded, dark, dreary, dirty tenements of our cities, which foster intemperance, immorality and crime, and which by depriving the individual of pure fresh air and sunlight predispose strongly to tuberculosis and other diseases.

Houses built on damp soil, whether in cities or country, should be torn down, for no matter how perfect the sanitary arrangement of the building may be, damp soil will foster tuberculosis.

Reporting and even sending a sanitary inspector can have no lasting beneficial effect when the consumptive invalid of the family is obliged to continue to live under conditions which are in themselves phthisio-genetic. I am an ardent believer in individual and general public education in regard to prophylaxis of tuberculosis, and I am the last to underestimate the value of such instruction, but the best fruits can come from it only when we can offer to the consumptive dweller of the tenement ways and means to do better, or to get out of his unhealthy environments. Our present knowledge in phthisio-therapy has taught us that a tuberculous patient may be successfully treated wherever there is plenty of air and light. Not only tuberculosis, but many other diseases will disappear in proportion to the number of model tenement houses created by the efforts of our statesmen, municipal governments, or the individual efforts of philanthropists.

We must have sanatoria and special institutions to treat the curable and isolate the hopeless consumptive poor; but we must have a far greater number of model tenement houses, built on good soil, with good drainage, houses where sunlight can enter in abundance, where overcrowding is impossible, and which are constructed in a manner that pure air can have access to every room; where privacy is guaranteed and where the honest toiler will find pleasure in remaining at home. Give to the workingman a pleasant, clean, healthy and comfortable home and the rumshop will have fewer attractions for him. The money formerly spent for liquor will go to the butcher and baker for the better nutrition of himself and his family, and underfeeding—the other important phthisio-genetic factor—will be materially lessened.

The overcrowding of schools, bad ventilation of the classrooms, too much indoor work during school-life and not enough outdoor play will, of course, further any tendency to tuberculosis in childhood. Our city fathers, boards of education and teachers must unite in rational reforms. Consumptive school-teachers should not allowed to teach in public schools, neither should consumptive pupils be admitted to these institutions. For the latter school-sanatoria in healthy localities should be created, and the unfortunate tuberculous teacher in the incipient stage of the disease might here also find useful employment and regain health.

Overcrowded prisons, asylums and almshouses, of course, not infrequently contain numerous foci of tuberculous infection, and the close contact in which the prisoners and patients live, facilitates the propagation of the disease. More cubic space per individual, more systematic ventilation, and the isolation of tuberculous invalids are the remedies which should be urgently applied. The experiment in Alabama with a convict camp for tuberculous offenders seems an interesting and useful innovation in the line of modern prophylaxis of tuberculosis.

Ship-builders and ship-owners also should bear in mind that the intensely crowded quarters to which the average sailor is confined during his hours of rest and sleep are absolutely detrimental to his health, and even the outdoor life during the hours of work can not counteract the deleterious influence which the vitiated air of the forecastle exerts on the health of the brave seaman. A tuberculous sailor, still at work, is almost certain to infect his comrades, for there is hardly any class of people which live in more crowded quarters than the seamen. The ship-builders and masters of vessels must seek to remedy this evil.

Factories and workshops should be submitted to sanitary inspection to prevent the workrooms from being overcrowded, and to see that they are properly ventilated.

Lastly, the physicians, statesmen and philanthropists, interested in the solution of the tuberculosis problem, have, besides working for the better housing of the poor and the creation of special institutions for the treatment of consumptives, an additional mission to perform. The tide of emigration from village to city should be reversed. If tuberculosis has made its appearance in a family living in a large city the physician should exert all his influence to induce, especially the younger members, to migrate to the country and seek outdoor occupations. Statesmen should protect the interests of the farmer, so that farming will have more attraction to the rising generation than it has had in the last few decades; and philanthropists should aid the statesmen by endowing institutions for instruction in scientific and profitable agriculture, and also by providing healthful amusements in country districts, and thus make living outside of large cities more interesting.

The creation of schools of forestry in connection with the preservation and cultivation of forests in many states where a wasteful destruction of trees is now carried on, would give useful and healthful employment to a number of people, as well as render the regions more healthful. It would offer attractive careers to young men seeking to overcome hereditary or acquired tendencies to tuberculous diseases.

I submit these few thoughts on overcrowding and tuberculosis in the hope that they may be helpful to those who have the desire and the means to aid in the combat against the "great white plague."

16 West Ninety-fifth Street.

Igazol.—A committee was appointed to decide on the merits of Cervello's "igazol" in the treatment of tuberculosis, at San Paulo, Brazil, where it was tested on a large scale in one of the hospitals. The report, published in the *Revista Medica* of June 15, states that no favorable results of any kind followed its use.

CLIMATE FOR TUBERCULOSIS.*

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CHICAGO AND LOS ANGELES.

Climate is supposed to be the major force in the cure of consumption. It is important, but only one element in the proper management of this disease. The vital object is to increase the resisting power to the bacillus; everything that tends toward that end is important. Climate may be made to help toward it in some cases; but it does not always help—sometimes it hinders, and greatly does so. It is a pitiable waste when it does not help; it ought always to benefit somewhat or not be invoked. Many times it is worse than useless, and brings disappointment and chagrin where it ought to give comfort, and so throws discredit on the whole subject. A measure capable of so much good ought not to be discredited by the unwise use of it, or by unwarrantable belief in it. Fatuous faith leads to neglect of other needful things. Because climate is valuable and has great possibilities for good, there is no occasion for rhapsodies about it that are sure to curtail its usefulness for the numerous victims of the most pathetic disease ever known.

To increase the resisting power of the body—reduced in some part at least or the disease could not have started—is the great requirement. For this all the resources of the system must be conserved, and no influence that will increase the power can be spared. Increased susceptibility from reduced power comes of too hard work of body and mind, or some of the cells thereof, and so blood-making and capacity for bodily exercise are reduced.

The monotony of one kind of work with a narrow range of exercise always lowers the vitality. Practically there are no occupations that are entirely hygienic and conserve all the powers of life; and, especially, can no indoor work ever do this.

Monotony, work and worry lead to a lowering of vitality always, unless they are counteracted by sufficient vacations and change. The digestive power is reduced in this way; then blood-making fails and tuberculosis is invited. Fermentative and other poisons accumulate in the system as a result and militate against recovery.

The needs of the tuberculous patient are not one, but several, and apart from special medication include: 1, rest from work; 2, change of work and cares, so as to shift the load from parts that have borne it to those that are fresh; 3, painstaking attention to the digestion and the feeding and nutrition of the body; 4, long hours of sleep; 5, outdoor life, much sunshine, and fresh air every hour; 6, a change of surroundings for novelty and pleasure, and to help shift the load, and finally 7, a change of climate, to a better one if possible, but a change anyway. Not one measure, therefore, but seven, are needed, and change of climate helps or ensures some of the others, but not all, and, great as climate is, it is not everything.

The chief value of any climate for tuberculosis rests in the ability of the patient, without depression or hardship, or much labor to live a large part of the time out of doors and to breathe the pure air all night. This is many fold more valuable than all special treatments combined. The reason of all its value has probably not yet been explained; we simply know that we have in our houses and work-inclosures some influence that is detrimental, and that we can hardly hope to make the atmosphere of our habitations as good as that of the skies. We think we know all about the physics and chemistry of the atmosphere, but after a century we have found that there is an element within it—argon—that constitutes 1 per cent. of its bulk and which had eluded the chemists for all these decades. The value of the outer air is founded firmly on clinical evidence, whatever chemistry says.

Sunlight is a good element of a proper climate for tuberculosis. It helps the patients in body and spirits, and kills the bacilli that it can touch for a few hours. It probably also represses or destroys other harmful influences, and helps to keep the earth's surface free of too much water, a thing that is charged with spreading tuberculosis.

Altitude helps some cases, especially the incipient ones. It causes, for a time at least, an increase in the number of red corpuscles—of reduced size perhaps—and often starts an improvement in nutrition which may be the beginning of recovery.

Dryness of air is almost universally regarded, and justly so, as one of the best qualities of a proper climate. It minifies the surface earth water and counteracts its injurious influences; it increases the power of the sunshine to kill bacilli; it lessens the liquidity of the phlegm and reduces the amount of expectoration of consumptives, and calms the cough of many of them. That it has much influence on the march of the disease deep in the lung tissue, where the respired air can not touch, is not so well proved. These are the chief advantages of the best climate—advantages that are not likely to be discredited hereafter. But all climatic influences for good may be rendered nugatory, and often are, by lack of other conditions that are as vital as any that have been named.

Homesickness wholly counteracts any good effect of climate in many cases, and in others does worse. Patients are often sent away alone, severing all their previous associations and ties, and are expected to shift for themselves among strangers, to keep up their courage, and in the face of depressing symptoms to gain in health. The average of them can not do it, and friends or relatives or nurses should always accompany and care for them.

By managing their own diet and eating only when they are hungry, and such foods as fancy moves them to, they practice a moderate starvation when they ought to have forced feeding in six eatings each day. They believe that the more they exercise and develop their muscles the better, which is untrue; and they will force themselves as an act of duty and against their inclination to exercise when they have fever, and always to their great detriment.

They often select unwholesome rooms and nearly always keep housed with poor or no ventilation for full sixteen hours in the twenty-four. They have the most amazing fear of night air and of cold-catching; they can scarcely be convinced that night air is better to breathe than day air and that if the body is kept warm there is no danger of cold-taking from currents of air night or day.

Only those patients recover from pulmonary tuberculosis who have, under good hygiene and treatment, nearly enough resisting power within their bodies to counteract the disease. With other things as favorable as possible, or nearly so, a good climate—and a change from the home climate—is an influence that will often tip the balance in favor of recovery. Nothing more than this should be asked of any climatic resource, and it is extremely unwise to journey to a distant country at great inconvenience and expense, and to expect, by so doing, to excuse the omission and neglect of those measures of wholesome living for the sick, that can be had in almost any climate, and that are justified by the experience of all time, as well as by common sense.

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TUBERCULOSIS—ITS ZOOLOGIC AND GEOGRAPHIC DISTRIBUTION.*

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Tuberculosis is the most widely spread of all diseases. This is true, whether we view the question from a zoologic or a geographic standpoint. This extent of distribution must be taken into account in determining the importance of the disease, the possibility of eradicating and the means of combating it. I will state first many somewhat isolated facts, and later I will draw conclusions.

ZOOLOGIC DISTRIBUTION.

Cattle.—Amongst domestic animals the cow is unquestionably most important from the standpoint of the danger from tuberculosis. The reason for this is that the one very abundant source of nourishment that is eaten raw is derived from the cow. The eating of uncooked meats, of half-done or smoked sausages, threatens a limited number of people. The drinking of milk threatens all the people. The artificial conditions under which milk cows are kept, the warm, snug, draught-free, and therefore dangerous, stables, the forced feeding and the continuous milking, in short, the strenuous life makes the milk cow very susceptible to tuberculosis. The proportion of tuberculosis amongst oxen is much smaller. The figures are about one-tenth as high as for milk cows. Calves and yearlings have about one five-hundredth as much tuberculosis as milkers have. The statistics of the Illinois Board of Live Stock Commissioners show that in the herds examined—mostly those of the peri-urban dairy districts—16 per cent. were tuberculous. In the herds of Wisconsin, where some suspicion of disease existed, tests have shown 10 per cent. of tuberculosis. A correspondent informs me that in Colorado around the cities 2 per cent. of the cattle are tuberculous; that in the range cattle there is none. Hirsch says that in the range cattle of Brazil there is no tuberculosis. Around the cities the generally imported dairy cows show 15 per cent. In the mountains of Switzerland and in the highlands of Hungary there is almost no bovine tuberculosis. In the dairy districts of North Germany 25 per cent. of the slaughter-house cattle, to say nothing of the dairy cattle, are tuberculous.

In Pennsylvania, the later figures of Dr. Pearson show that 11.6 per cent. of the milk cows examined are tuberculous. In Massachusetts in 1895-97 fully 30 per cent. of the milk cows examined showed tuberculosis. In Connecticut in 1896, 14 per cent. of 6304 cows examined were tuberculous. In the districts near the larger cities 29 per cent. showed the disease. In the more thinly settled districts 99 per cent. were tuberculous.

Horses.—Chauveau produced experimental tuberculosis in the horse and in the ass. Cadeac and Morot report two cases in horses. Thompson reports one case. Nocard says the horse is very refractory to experimental tuberculosis, but is very frequently affected by tuberculosis contracted in the ordinary way. Tuberculosis in the horse is of two distinct types, the pulmonary and the abdominal. Nocard is of the opinion that the pulmonary type is due to the human bacillus, the abdominal type to the aviary bacillus. The literature of comparative pathology and of veterinary medicine teems with reports of tuberculosis in the horse. This fact proves, first, that the disease is not exceedingly widespread, and, second, that it is fairly abundant. We are to bear in mind that post-mortem sectioning of the horse is the exception.

Hogs.—There is no question as to the prevalence of tuberculosis in hogs. The figures for Berlin, in 1893 to 1894, were .5 to .9 per cent. Johne says that, in Saxony, in 1891, 1.07 per cent. of the hogs slaughtered showed tuberculosis. Thomassen says that the statistics of Amsterdam showed 1 per cent. of tuberculosis in the slaughter-house hogs. The Rouen statistics showed .04 per cent. Tuberculosis in the hog is usually of the abdominal type. These figures gain importance when we recall that it is the thriftiest of all the yearling hogs that gets to the slaughter-house. The Copenhagen statistics show the effect of feeding hogs on the skim milk or slime from the creameries.

Goats and Sheep.—Colin has given tuberculosis to sheep by inoculation. Bollinger reports a case in sheep. Cadiot, Gilbert and Roger, Moule and Siegen report cases. Lydtin reports three cases in goats; Thomassen one. Colin produced the disease in a goat.

I have made post-mortems on two tubercular Aubeaus and two tuberculous mountain sheep, members of the goat and sheep family. The literature contains records of a moderate number of cases. Morrison says sheep and goats get tuberculosis when injected intravenously, or continuously fed on tubercle bacilli.

Dogs.—The museum of the New Veterinary College, England, contains a specimen of tubercular pericarditis in the dog. Villeman reported six cases of tuberculosis in dogs. Bertheau, Weichselbaum and Verageuth, Koch, Gamaleta, Maffucci, Zagari, Mallin, Wells, Johne, Marcus, and hundreds of others report one or more cases in the dog. I have seen a case of tuberculosis in a black wolf—a member of the dog family. Jensen found 15 cases in eleven months. Bang reported 13 cases. Eiber, at Dresden, posted 400 dogs, finding tuberculosis in 2.75 per cent. Cadiot posted 9000 dogs at Dálfort; in two years 40 per cent. showed tuberculosis. The disease in the dog is found especially in the lungs. Strauss says: "It is, above all, by reason of his cohabitation with men attacked by tuberculosis that tubercular infection occurs in dogs." Johne reports a case confirming this view. Czoker reports four similar cases.

Cats.—Villemen produced experimental tuberculosis in a cat. Viseur made a cat tuberculous by feeding it the tubercular lungs of a cow. This was confirmed by Nocard. Jensen at Copenhagen posted 25 tuberculous cats in two years. Davis reports one case in a cat. I have held post-mortems on three tuberculous lions and one tiger—members of the cat family.

Rabbits and Guinea-Pigs.—While these animals are habitually used for experimental tuberculosis, and possess a very great susceptibility, they seldom contract the disease spontaneously. Strauss says: "Rabbits and guinea-pigs are very rarely the subject of spontaneous tuberculosis."

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Barn-yard Fowls.—Tuberculosis is very frequently found in nearly all the varieties of domestic fowls. Strauss says that it is found in roosters, hens, pheasants, turkeys, pigeons, canaries, finches, ostriches, swans, vultures, owls and carnivorous birds, as well as grain feeders. Zurn, in posting 600 chickens, found 10 per cent. tuberculous. The Rhode Island Experiment Station found 15 per cent. of a lot of incubator chickens tuberculous. Bouley, Devillers and Leugleu cited cases to prove that chickens could contract the disease from being among tuberculous people. Ribbert confirms this. Johne, Mollereau, Chelkowski, De Lamelleree, Cagny, Koch and Nocard publish some confirmatory facts. Bray, of Kansas City, reports an infection of a poultry yard by a man with tuberculosis. Strauss sums up the question as follows: "It appears, then, to be established that fowls can become tubercular from eating the excretions of tuberculous animals." Nocard has demonstrated that the avian form of the tubercle bacillus is a modification of the human, just as Theobold Smith has demonstrated certain differences between the human and the bovine forms. Strauss says that ducks and geese are very refractory. He quotes Pomay's experiences, showing that in a poultry yard in which a great many chickens and turkeys died of tuberculosis, the ducks and geese, living right with them, remained healthy.

Menagerie Animals.—Strauss reports a post-mortem made by himself on a tuberculous lion in the Paris Zoological Garden. During the last two years I have posted three tuberculous lions in Lincoln Park Zoological Garden. In addition to this, I have found tuberculosis in the following animals: one tiger, one black wolf, one rock python, two mountain sheep, two elk, two antelopes, two species of goat, fifty monkeys of all species and kinds.

In the London Zoological Garden, according to Forbes, 43 per cent. of all the monkeys die of tuberculosis. In the Paris Jardin d'Acclimation 20 per cent. of the deaths are due to tuberculosis. In the Zoological Garden, Frankfurt-sur-le-Main, 22 per cent. die of this disease. In my observations, extending over two years, tuberculosis has caused 94 per cent. of the deaths. This observation is on 50 monkeys, with post-mortems.

Other Animals.—Strauss quotes Koch and others as finding tuberculosis in white and brown rats, white and field mice. McEachren, chief veterinary inspector of Canada, says: "Rats, mice and other vermin not only contract tuberculosis, but spread the disease." Sibley reports a case in a serpent, tropidonotis natrix, an Italian snake, dying after a captivity of some months in a zoological garden. At the Berlin Congress the same author reported other cases in snakes—in grass snakes and common English vipers. In this connection I report the case of a python kept for several years in a glass case in the animal house, at a temperature never falling below 70 F., and showing tuberculosis post-mortem.

Despeignes has produced tuberculosis in frogs and tritons kept at room temperature. Lortet and Despeignes have demonstrated that tubercle bacilli can be transported and spread by earthworms.

Geographic Distribution.—Hirsch says that tuberculosis may be designated an ubiquitous disease in the strictest meaning of the term. Whatever reason there may have been for doubt as to the accuracy of this statement at the time of Hirsch has since been removed. The few places in which no tuberculosis had been reported in his day have since been found to furnish no exceptions to the general rule.

So far as I have been able to gather, in the larger cities of Europe, the death-rate from tuberculosis of all forms constitutes something more than one-fifth of the total death-rate. The death-rate is about 350 per year per 100,000. This is approximately true of every continental country.

Austria and Hungary will run a little higher than Holland and Switzerland. In the smaller towns and country the death-rate is about 260 per year per 100,000 inhabitants. In Great Britain the situation is somewhat better, the death-rate being in the vicinity of 225 per year per 100,000 inhabitants. According to Hirsch, Iceland, the Faroe Islands, the Hebrides and Shetland Islands have some, but not much, tuberculosis. According to data received from the government, the amount of tuberculosis in Iceland is about 150 cases per year. This, considering the open life of the people, the lack of crowding and the primitive conditions of life, together with the inaccuracy as to death-rate that must prevail amongst isolated folk, constitutes a considerable mortality. The northernmost parts of Norway and Russia appear to have but little tuberculosis, yet from all of these districts information must be meager. That it is to be found is certain. In the account of the Wellman Expedition there is reference to a polar bear killed on the ice and showing tuberculosis. Nansen records bacteria and bacterial diseases in the coldest latitudes. He had no opportunity to observe tuberculosis.

It is found in Armenia, Syria, Persia, Mesopotamia, Greece, Arabia, India, Turkey, Ceylon, the East Indies, China and Japan, the Philippines, Sumatra, in all the islands of the Southern Pacific and in Australia. In Africa information is necessarily insufficient, but that which we have is to the effect that the conditions there are much the same as elsewhere. Wherever, in the interior, lives are wild and houses are unknown, tuberculosis is present, but rare. On the coast, along the waterways, along the channels of communication, whereever civilization has touched, tuberculosis is rife. Generally speaking, the disease runs a rapid course. The housed native, whether he be Bedouin or Kaffir, suffers to the maximum extent. The formerly supposed immunity of Algiers, Morocco and those portions of the Mediterranean shore has not been sustained by fuller information.

When we come to America, we find the disease widely spread. A recent article in the *Century Magazine*, on the giant Indians of Terra del Fuego, mentions their great robustness, so long as they stay away from civilization, but their rapid extinction by tuberculosis whenever they approach the ways of the white man. In Argentina, Uruguay, Paraguay, Brazil, Chili, Peru, Ecuador, Bolivia and the countries of the Caribbean littoral, it is found much as in Africa. In the interior, in the scattered habitations of the higher elevations there is some tuberculosis, but not much. Along the channels of travel there is an increased amount. In Rio Janeiro and Pernambuco the death-rate is 350 and 520 per 100,000, respectively. In Mexico and all the countries of South America there is the same story—the disease rarely found in the sparsely settled interior, very virulent and very abundant in the more thickly settled littoral. In all the islands of the Caribbean Sea there is much. In Cuba it kills more people than do malaria and yellow fever combined. Canada has but little less than the more densely populated United States. T[illegible] the United States, according to [illegible] census c[illegible] 103,000 people died with tu[illegible] during [illegible] ceding year. It is the op[illegible] tistici[illegible] thority connected with the census office, William King, that this figure is 30 per cent. too low. This would make 143,000, or about 210 to each 100,000 inhabitants. It constitutes about one-ninth of the total death-rate. In the city of Chicago it constitutes one-eighth of the total death-rate.

I offer the following conclusions:

1. Every animal having tuberculosis is a center for the maintenance and spread of tuberculosis. We must admit great variance in danger, according to the animal affected. The danger from the cow, by reason of the fact that we drink milk unboiled, is great. The danger from the horse is much less. In spite of this variance the proposition commends itself. Each of the excretions may contain tubercle bacilli. These go either directly into man, there to run the gamut of his defense, or into the world, there to perish, as a usual proposition, but, sometimes, to persist and threaten men and other animals.

2. Animal, and even aviary, tuberculosis is not identical with, but is related to, human tuberculosis. The translation of human into animal and aviary tuberculosis is also possible. A great deal of accurate, painstaking work has been done on the question of the transformation of human into bovine and avian tuberculosis, and vice versa. I mention the work of Theobold Smith and that of Nocard. Theobold Smith's work seems to me to show that while there are structural and biologic differences between the bovine and the human bacillus, the differences are not of great pathologic importance. This is borne out by cases of infection of people by bovine bacilli and of cows by human bacilli. In a short search of the literature I have found cases cited by Strauss, Bang, Colin, Nocard, the Illinois Board of Stock Commissioners, Bray, Crosse of Geneva, Cadeac and Bourney. The observations of this nature are far too numerous for recital. Nocard's work showed that human tubercle bacilli could be transformed into the avian form.

3. Inhalation and ingestion are the most frequent means by which tuberculosis is spread from man to man, from man to animals, and from animals to man.

4. The geographic distribution of tuberculosis is proof that the organism's extracorporal or saphrophytic life is of secondary importance. Argument in support of this proposition is found at every step by the bacteriologist. If this bacillus is found regardless of temperature, of soil moisture, of total rainfall, of elevation from the sea level, of prevailing winds, then it must follow that its essentials are resident in the animal body, where environment is more uniform. Nuttall's observation that the number of tubercle bacilli expectorated in the twenty-four hours is about three billions, would prove that only an infinitesimal number live outside the bodies of animals. The lesser number of cases of tuberculosis at high altitudes, away from cities, in dry climates, etc., is due to the improved condition of the people and of their hygienic conditions, such as lack of crowding, well-ventilated habitations, out-of-doors life, vigorous existence, etc., rather than difference in bacilli or in the effect of extracorporal environment on bacilli. However, we can not altogether deny the power of sunshine and drying on the bacilli that lie exposed.

5. There is abundant evidence that the bacillus is modified by the bodies through which it passes. Such is the teaching of the work of Bang, of Smith, of Nocard, of Jones and many others.

6. While Proposition No. 5 is incontestable, there is no evidence that the disease will disappear by reason of a general immunity. In the contest waged between the system and this bacillus, the wandering cells and the chemical substances of the body play a lesser part than in almost any other of the infectious diseases. Protection is had by reason of the activity of the fixed tissue-cells of the body. In those diseases which are due to organisms violently poisonous to the human body, the reaction is sharp, the death or cure speedily results. The very mildness of tuberculosis is responsible for its ultimate severity. The fact that the system takes so little cognizance of it constitutes the difficulty. In consequence, immunity is less a factor than in any other infectious disease. By this, I mean special immunity. The general immunity that comes from great good health and resisting power must be allowed by all.

7. The decrease in the death-rate from tuberculosis is more apparent than real. I want to reassert my statement made in this section last year that, while fewer people seem to be dying of tuberculosis than formerly, the proportion between the death-rate from tuberculosis and that from other diseases is not decreasing. In this connection we must bear in mind the fallacy of taking, without great caution, statistics that antedate 1880. If we limit our comparisons to the period since 1890 we will not find any material decrease.

8. Tuberculosis is above all a disease of crowding, and therefore a disease of cities. The disposition of the age is toward city life, and therefore a slight decrease, or even no decrease, in tuberculosis constitutes a gain.

9. At some future date, in determining the question of favorable location in order that a man may escape tuberculosis himself, shield his family from it or get well, once the disease has been contracted, we must ask the following questions: *a*. What is the altitude? *b*. What is the percentage of sunshine and cloud? *c*. What is the soil moisture? *d*. What is the atmospheric moisture? *e*. What is the population per acre? *f*. What is the amount of tuberculosis present in men? *g*. What is the amount of tuberculosis in animals and birds? *h*. Is the mean temperature approximately that of the district from which the man is to go?

103 State Street.

TUBERCULOSIS IN PENNSYLVANIA.[*]

GUY HINSDALE, A.M., M.D.

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PHILADELPHIA.

Pennsylvanians are beginning to take more interest in the subject of tuberculosis. In a state in which about eight thousand persons, nearly all of them in the prime of life, die of this disease each year, it ought to receive much more attention from those who have it in their power to reduce this unnecessary sacrifice of life. The first and last systematic study of consumption in Pennsylvania was made by the late Dr. William Pepper and the writer in 1886 for the American Climatological Association and was published in the Transactions of that society. It developed the fact that there is a great inequality in the distribution of this disease throughout the state. There are seventy counties in Pennsylvania. Some of them are sparsely inhabited, are deeply wooded; the country is wild; the elevations range in the neighborhood of two thousand feet or over. The children "born and raised" in these counties have purer air to breathe, purer water and milk to drink, a better chance to develop their sturdy chests, for they drive the cows to pasture, trudge to school in cold weather and help on the farm in summer. Neither they nor their parents may realize it, but they are, from our standpoint, the favored class in the general population. They are the survivors of representatives of the hardy pioneers who developed the natural resources of Pennsylvania.

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[*] Presented in a Symposium on Tuberculosis, to the Section on Hygiene and Sanitary Science, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

In twelve or thirteen counties, such as Pike, Sullivan, Montour, Union, McKean, Forest, Elk and Cameron, there is only about one-fourth as much pulmonary tuberculosis in proportion to the population as in some of the more populous counties. At the other extreme we have Philadelphia, Delaware and Lancaster counties. These lie in the southeastern corner of the state. The air is warmer and more moist; the country is less than five hundred feet above sea-level. The soil contains a considerable quantity of clay. The water-supply, for the cities at least, is from rivers that are contaminated, and the environment of the inhabitants of Philadelphia, Reading and Harrisburg is not conducive to the development of that bodily vigor that we find in the highlands of Pennsylvania. A glance at South street, Bainbridge or Fitzwater street, with poverty, vice and filth on every side, is explanation enough for the prevalence of tuberculosis. Children born and brought up amid such surroundings are an easy prey to any infectious disease.

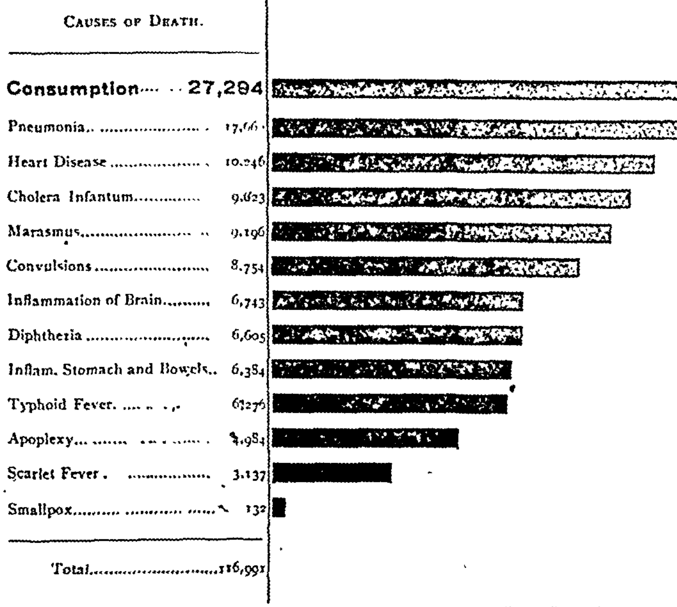


Diagram Showing Comparative Mortality by Deaths from Thirteen Prominent Causes of Death in Philadelphia, for the Ten Years, 1884-1893, inclusive.

In addition to moral and physical degeneration, the general lack of proper ventilation of city dwellings is a great predisposing agency in contracting consumption.

Atmospheric conditions in southeastern Pennsylvania favor the development of tuberculosis. The air is more humid, the rainfall is greater and the alternations of warm and cold weather throughout the winter and spring produce bronchitis and give rise to more colds than in the portion of the state where snow lies on the ground all through the winter and where the seasons are more sharply defined.

The prevalence of pulmonary tuberculosis compared with other diseases during a period of ten years is seen from the accompanying chart.

It will be noticed that the deaths from this disease in ten years exceed twenty-seven thousand, about equaling the combined deaths from diphtheria, typhoid fever, apoplexy, scarlet fever, smallpox and inflammation of the stomach and bowels. Between 1870 and 1897 there was a constant fall in the number of deaths from pulmonary tuberculosis in proportion to the population, but the proportion rose slightly in 1899. In fifteen years the percentage of deaths from pulmonary tuberculosis has fallen from 14 per cent. of all deaths to only 10 per cent. This has been a great gain. Just why the rise occurred in 1899 it is not possible to say precisely. It has been suggested that the better methods of diagnosis now in vogue show more cases to be tuberculous. Every hospital and outdoor clinic has its bacteriologic laboratory and the bureaus of health in Philadelphia and Pittsburg render valuable services to physicians unconnected with the hospitals. In 1899, 675 examinations of sputum were made by Dr. A. C. Abbott and Dr. Stetson in the laboratory of the board of health of Philadelphia. Cases which might have been returned as having died of bronchitis, for example, were doubtless thus found to be tubercular. This may account for the remarkable reduction of the number of deaths recorded from bronchitis; last year they numbered only 389, but in former years they were five or six times that number. In the first six months of 1900 there were 1434 deaths from pulmonary tuberculosis, while in 1899 for a corresponding period there were 1507. A reduction in the rate will no doubt continue.

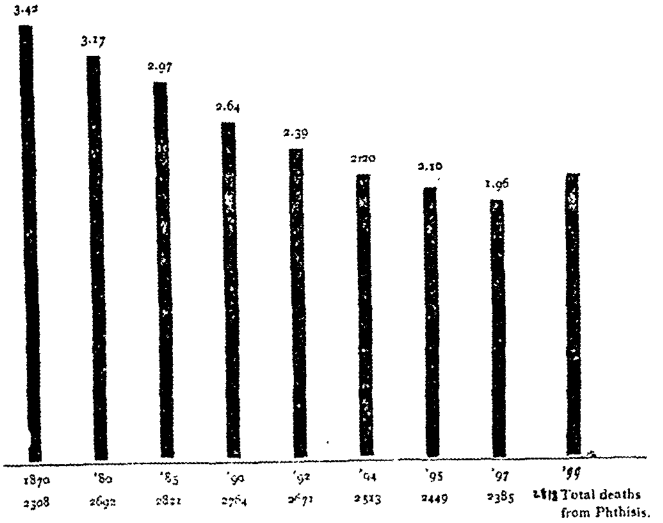


Chart Showing the Steady Reduction in Deaths per thousand of Population, Philadelphia, 1870-1899.

As physicians take advantage of the newer methods of diagnosis, including sputum examinations and X-rays, cases will be earlier recognized and cures accomplished in the incipient stage. The medical profession is justly entitled to claim more credit in this field than is usually accorded even by its own members. Physicians work harder and more hopefully in a given case of pulmonary disease than they did twenty-five years ago. Soundings are taken much oftener on the dangerous coast ar tie t so often to drift and go to pieces on the treacherous reefs without one word of warning.

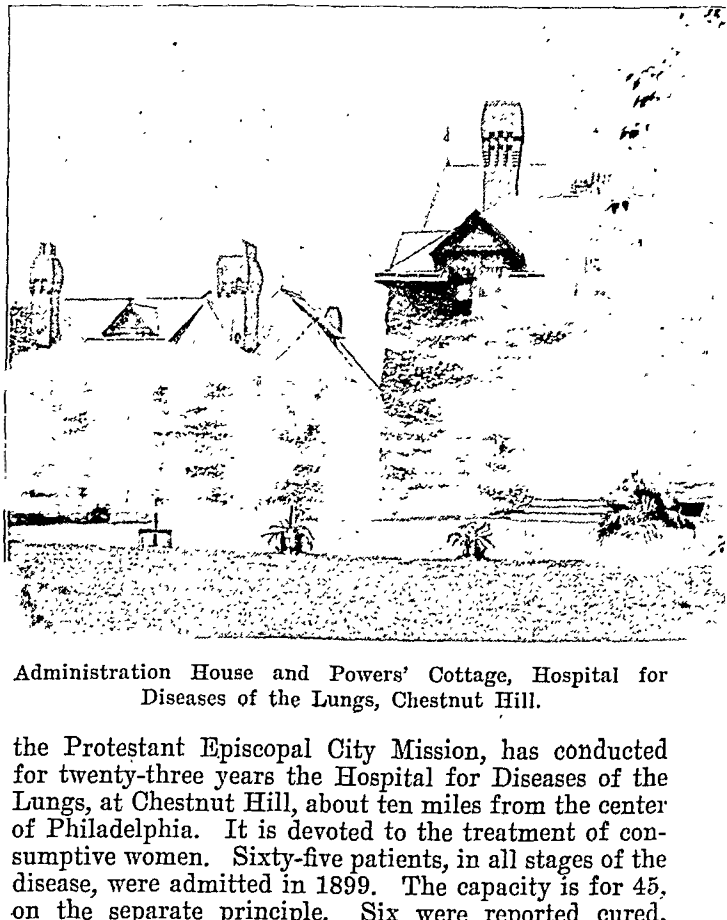
People are not so ignorant nowadays of the means of prevention of consumption and they have been educated not a little by physicians and by newspapers and special publications as to what should be done to limit the scourge. There may never be a time when there shall be no shipwrecks; there may never be a time when there shall be no consumption, but there is every prospect that some day deaths from this cause will be comparatively few.

The Pennsylvania Society for the Prevention of Tuberculosis was the first to be organized in this country, at least, with this particular end in view. It was organized on April 10, 1892, and incorporated in 1895. It has endeavored to educate the community in a knowledge of the true nature of consumption and the means now considered necessary to control or conquer this disease. The means by which this end is sought to be obtained are: by the publication and distribution of pamphlets; by constant efforts to induce those in influential positions to use their earnest efforts to prevent the spread of the disease; and by striving to obtain the requisite conditions whereby those early afflicted may be restored to usefulness, or for those far advanced, the safeguarding that will prevent the communication of infection to others. Between seventy-five and eighty thousand copies of tracts or pamphlets have been issued, principally for distribution in Pennsylvania. They have been forwarded, on request, to various states from Maine to Oregon and California, and even to Hawaii,[1] and have been reprinted, with slight changes, and circulated widely. No. 1 is entitled "How to Prevent Contracting Tuberculosis (consumption)." No. 2, "How those Suffering from Tuberculosis Can Avoid Giving it to Others." No. 3, "How Hotel-keepers Can Assist in Preventing the Spread of Tuberculosis." No. 4, "How Storekeepers and Manufacturers Can Help to Prevent the Spread of Tuberculosis." No. 5, "Predisposition to Disease." No. 3 has been translated into Hebrew for circulation among the Jewish population. These leaflets can be easily handed to those attending dispensaries and are always well received and additional copies are frequently asked for. This society will always furnish copies of its tracts free to those applying for them, or in large quantities at the cost of paper and printing.

A committee of the society has gone twice to Harrisburg, and has urged the committees on appropriations at two legislatures to provide for a hospital or sanitarium to be erected by the State of Pennsylvania in some mountain region suitable for this purpose. These measures have on both occasions been favorably recommended by the Board of Public Charities after full investigation and have been apparently well received by the committees on appropriations, much sympathy being shown by individual members. Other influences, however, including a false sense of economy and immense losses to the state through bank failures and dishonest officials have rendered our appeal futile. In the city of Philadelphia we have been confronted by a similar state of affairs. The apathy shown at home is in strong contrast with the enlightened and advanced attitude of foreign governments, which have established many institutions of their own and generously given aid to others. America is far behind England, Germany and France in this regard. While it is humiliating to acknowledge our deficiencies we must make them known in order to secure their correction by encouraging public-spirited men and women of our country to grapple with the herculean task.

The Pennsylvania Society for the Prevention of Tuberculosis requested the Board of Health to consider the advisability of issuing circulars or public notices, to be properly distributed, warning against the uncleanly, unnecessary and reprehensible practice of spitting in public places and conveyances. Such a circular was issued by the Board in 1895, and thousands of copies were widely distributed. Every one of the 1500 street cars in Philadelphia is provided with a conspicuous sign authorized by the Board of Health forbidding the practice of spitting on the floor. There is, however, no law in Pennsylvania under which any one can be arrested and punished for such an act on the streets or elsewhere, but the presence of the order of the Board has done a great deal to improve the appearance of the sidewalks and street cars.

In caring for the tuberculous three special corporations are devoted to this purpose. The oldest of these, the Protestant Episcopal City Mission, has conducted for twenty-three years the Hospital for Diseases of the Lungs, at Chestnut Hill, about ten miles from the center of Philadelphia. It is devoted to the treatment of consumptive women. Sixty-five patients, in all stages of the disease, were admitted in 1899. The capacity is for 45, on the separate principle. Six were reported cured, 18 improved, 9 unimproved and 36 died. A department for men, called the "House of Mercy," at 411 Spruce street, in the heart of the city, admitted 45 during the year. Since their organization these institutions have cared for about 2900 patients. Dr. J. Solis-Cohen, Dr. Wm. M. Angney, Dr. C. A. Currie, Dr. F. W. Thomas and Dr. Robert H. Bolling are the attending physicians.


Administration House and Powers' Cottage, Hospital for Diseases of the Lungs, Chestnut Hill.

The Rush Hospital for Consumption and Allied Diseases was opened in 1892, and in 1895 occupied a site at 33d Street and Lancaster Avenue, West Philadelphia. It has a capacity for forty patients in wards, but its means at present do not admit a provision for more than 20. It has received annually $5000 from the State of Pennsylvania since its organization. There are two free beds, a dispensary is attached and fulfils an important work.

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[1] The number of deaths from pulmonary tuberculosis in Honolulu has more than doubled in the last five years.

The Free Hospital for Poor Consumptives was organized in 1895 and incorporated in 1897. Its object is to give hospital treatment to the consumptive poor. It has not yet procured its own home, because all the money it has been able to raise has been expended for the pressing needs of cases which have presented themselves; it pays their board in existing hospitals in Philadelphia and elsewhere. These include St. Agnes', St. Mary's, the German, the Rush, the Hospital of the University of Pennsylvania and the Sanitarium Gabriels in the Adirondack mountains. During the five years of its existence, the Free Hospital for Poor Consumptives has paid out over $20,000 in board for urgent cases. Over $6000 was thus expended in 1899, and 124 persons received hospital treatment. The fund is supported by contributions of small amounts, and there are 320 glass globes placed in drug stores, banks and other available places, yielding a bountiful supply from those who could not be easily reached, and anonymous donors who would be unlikely to make formal subscriptions.

Hospital for Diseases of the Lungs, Chestnut Hill, Philadelphia

Steps are being taken to secure a desirable out-of-town property for the needs of this charity. Its president, Dr. Lawrence F. Flick, has shown indefatigable energy in creating an interest in its work. The receipts for the charitable work of the Free Hospital are now over $10,000 a year. It affords prompt relief and has a record of not one case of consumption having been turned away.

These four organizations, expending their effort in three different fields, supplement each other's work for the restriction of consumption. The Pennsylvania Society for the Prevention of Tuberculosis directs public attention to the principles underlying the nature of the disease, the reasons why a fight against tuberculosis is perfectly rational and its extinction almost within our grasp. Its work is to teach, to encourage private and to urge public action. It will gladly co-operate in all possible ways to advance the interests of hospitals for consumption.

The Hospital for Diseases of the Lungs, at Chestnut Hill, and the Rush Hospital receive cases and treat them as they present themselves and as their very limited endowments render possible. The Hospital for Poor Consumptives co-operates with every hospital in Philadelphia that will receive such patients and pays their way in existing institutions. It makes its plea to the public for support on the ground that the disease being contagious, the lot of the consumptive in these latter days has been growing harder and the only protection the well have against infection is by the hospitalization of the consumptive population. Besides the idea of personal protection is the fundamental idea of unselfish charity, which is the principal motive of the organization.

The best method of dealing with tuberculosis in cattle is a much simpler proposition. The Pennsylvania State Live Stock and Sanitary Board in the last two years has examined and tested with tuberculin at the expense of the state over 34,000 cattle, and of these over 5000 have been condemned and destroyed. The law provides that farmers shall be reimbursed, in order that hardship may not result. They receive an average of $22.30 per head; or not over $50 for registered stock and not over $25 for unregistered stock; in this way nearly $150,000 has been expended. To carry out this important work nearly 60,000 doses of tuberculin have been administered by authority of the state veterinarian, Dr. Leonard Pearson, of the University of Pennsylvania. He has encouraged the state to advance the funds to carry on the work; he has interested veterinarians all through Pennsylvania in the extermination of tuberculosis among cattle, by furnishing them the means of testing herds and inducing farmers to exercise greater care in preventing the spread of the disease throughout their herds and from animals to man. For the systematic, intelligent, far-reaching work which Dr. Pearson directs, and for his activity in ensuring conformity to the laws governing the importation of cattle into the state and the sale of meat and milk, every man, woman and child in the commonwealth is under obligation.

Pennsylvania may justly be proud of this feature of the struggle against tuberculosis, in which she takes a firm and liberal stand, yielding the palm to none.

3943 Chestnut Street.

MUNICIPAL REGULATION OF THE SPITTING HABIT.*

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Charles Dickens decided that, as a people, we lack the national instinct of cleanliness. He therefore designated Americans a nation of spitters. We no doubt deserve the designation, as the enlightened nations of Europe regard spitting on the floors and sidewalks as not only unsanitary, but an evidence of ill-breeding.

Five years ago the writer read a paper before the Allegheny County Medical Society recommending restriction and regulation of the spitting habit. Nine out of ten members who took part in the discussion agreed that restriction and regulation were needed. Six, however, of the nine thought any regulation impossible. "Women can, but men can not, change their filthy spitting habits."

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* Presented in a Symposium on [illegible] osis, Section on Hygiene and Sanitary Science, [illegible] rst [illegible] eeting of the American Medical Associat[illegible] J., June 5-8, 1900.

The writer believed that most men had the natural instinct of cleanliness and could be educated in this respect up to the level with women; and further, that the ignorant, unteachable and vicious could be controlled by the absolute fiat.

The principal aim of this paper, however, is a brief review of what has been accomplished in this most important sanitary reform.

During the past year the writer has been in communication with the boards or bureaus of health of twenty-two principal cities of the United States. The following were the four principal questions asked:

1. Have you a special anti-spitting ordinance?
2. If you have not, do you attempt to restrict spitting under your general nuisance act?
3. Date of your special ordinance or order forbidding expectorating on public floors and sidewalks.
4. Result of enforcement.

An analysis of the replies gives the following information: Special laws have been enacted in one-half of these cities, and about one-fourth are regulating partly or wholly under their general nuisance acts. These ordinances empower bureaus of health to abate or prohibit anything of an unsanitary character; indiscriminate spitting is included.

In the past five years, New York and Brooklyn, Newark, Columbus, Cleveland, San Francisco, Pittsburg, Washington, D. C., Rochester, New Orleans, Louisville and Baltimore have enacted special laws.

Denver, Atlantic City, and one or two others, have special laws under consideration.

The Boards of Health of Chicago and St. Louis have contented themselves with suggestions to the public, mainly through signs placed in street cars.

The Boards of Health of Philadelphia and Boston are doing good work under their general nuisance acts.

The Bureaus of Health of Detroit, Buffalo and St. Augustine are not in the working line. Hopes may be entertained for the two former, but, alas, St. Augustine! Poor St. Augustine! This ancient landmark answered the writer's inquiries thus: "Our native people would consider such an order an insult to their dignity. Can not stop a Florida cracker from spitting." May we interpret from this answer that these people love darkness rather than light?

Many superintendents of bureaus of health do not seem to realize that they can regulate spitting under their general nuisance act. Others do not have backbone enough to promulgate and enforce an order. Special ordinances, however, attract the attention of the general public and are probably more easily enforced.

New York and Brooklyn are under one law, with a maximum fine of $500, or one year's imprisonment. Newark has one of the best special laws yet enacted. It has been tested and sustained by the court. The offender was convicted and the fine imposed. The ordinance is as follows:

> Whereas, expectorating in street railway cars or other public conveyances, or in any public building, is deemed by the board of health of the City of Newark to be prejudicial to the health of its citizens: Therefore, be it ordained by the board of health of the City of Newark as follows:
>
> Section 1. No person shall expectorate upon the floor or any part of the interior of any street railway car or other public conveyance or any public building in the City of Newark.
>
> Section 2. Any person who shall violate the provisions of this ordinance shall be fined for the first offense ten dollars ($10) and for the second and any subsequent offense twenty-five dollars ($25).
>
> Section 3. Officials in charge and control of street railway cars or other public conveyances, or of any public buildings, shall post and keep posted in a conspicuous place one or more printed notices of the provisions of this ordinance prohibiting expectoration, and the conductor or conductors of any such cars or other public conveyances, and the janitor or persons in charge of any public building, shall call the attention of all violators of this ordinance to such notice, and shall report any violations thereof, with a description of the persons offending against this ordinance, immediately to the board of health of said city, and any such person failing to post the notices required by this section, and to make the report herein provided for, for failure so to do shall forfeit and pay a fine of five dollars ($5.)
>
> Section 4. This ordinance shall take effect immediately.

Boston operates under her general nuisance ordinance, with a maximum fine of $100. The following is the text of this brief but concise order, issued by the Board of Health, in 1896, and revised in 1899.

> The board of health hereby adjudges that the deposit of sputum in public places is a nuisance, source of filth, and cause of sickness, and hereby orders: That spitting upon the floor, platform or steps of any railroad or railway station, car, public building, hall, church, theater, market, or any sidewalk immediately connected with such public places, be, and hereby is, prohibited.

In reply to the writer's special inquiry, the president reports: "The result of the enforcement is a most remarkable change from filth to cleanliness."

The courts of Newark and San Francisco have sustained their anti-spitting laws. The offenders were convicted and the penalties imposed. A millionaire was convicted by the superior court and the judgment sustained by the supreme court of California. He paid his fine of $25 and served one day in jail. Attorneys interested can secure data of the above cases by writing to the clerk of courts in either of the above-named cities.

The decision of the supreme court of California has established the fact that the passage of anti-spitting laws is a proper exercise of police power of the city. The entire Board of Health of San Francisco is composed of physicians, which probably accounts for the efficient work recently accomplished.

Men without scientific training or special fitness are frequently placed—by corrupt politicians—in charge of bureaus of health. The annual reports of these men often read like the minutes of a mutual admiration society, and their work is about as valuable. These reports and the inefficient work are sufficient evidence of the need of placing a medical executive board over all bureaus of health.

Public opinion is being rapidly educated, and if bureaus of health are inefficient, and anti-spitting laws are not well enforced in the near future, the question of first and second class electric and steam railway cars, to separate clean from indifferent people, will probably demand consideration, even in this democratic land. If rapid-transit street-car companies do not give this factor of car sanitation the attention it deserves, private motor carriages will crowd the streets, and this will delay and lessen street-car travel.

All communities have a few so-called scientific men, a few men in power, a few car conductors, a few "don't cares," who would rather wallow in public expectoration than set an example of cleanliness to the general public. There are also a few persons who consider it their sacred duty to clog the wheels of preventive medicine by opposing every useful reform and wailing over every offensive and dangerous institution as it falls.

Much has been done toward educating teachable people. The work is well begun. The pessimists of a few years ago are the astonished optimists of to-day. Thousands of earnest workers are now in the field where not a corporal's guard stood when the writer began agitating this factor of public health five years ago.

HEREDITARY FACTORS IN TUBERCULOSIS.*

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PHILADELPHIA.

The hereditary factors are regarded as being less influential at the present day than was held prior to Koch's important discovery of the tubercle bacillus. It has been conclusively shown that direct hereditary transmission is an exceptional occurrence. Hauser, in an extensive and careful review of all previous work upon this question, reached the conclusion that there are only 18 authentic instances of direct inheritance of this disease to be found in the literature. In all of these cases only the mother had tuberculosis. He contends that conclusive proof of direct transmision from the father is wanting and this position is probably the correct one. Hauser attempted to produce experimental direct hereditary transmision in guinea-pigs and rabbits, and in a single animal only was he successful, and this had been kept alive for months after birth. He decided that the theory of direct inheritance rests on insufficient evidence.

Birch Hirschfeld found that even though the fetus itself may show no evidence of tuberculosis, the fetal viscera may yet be infective to guinea-pigs. Baumgarten also believes that the contagion may be transmitted and become pathogenic at a variable period after birth. To support this view is the fact that certain structures not apt to be accidentally infected are commonly the seat of tuberculous lesions in children, as the bones and joints. Kuss disputes the theory of latency of tubercle bacilli until childhood or later in life. He contends that these latent foci do not exist before the age of three months; and that they are rare before the end of the first year of life.

Whilst it must be conceded that intrauterine infection is the exception, and although there is practically no hereditary tuberculosis there is a hereditary predisposition, which invites infection. In what does this predisposition consist? This is a pertinent question. Otis, of Boston, contends that heredity means poor vitality from birth and that subjects who manifest the same conditions without the influence of heredity are to a like extent predisposed.

It is well known that as the result of an unfavorable environment a predisposition to tuberculosis may be acquired. Hence, there is danger of confounding this condition of the system with inherited predisposition. Again, the latter form of predisposition is constantly being confounded with latent forms of tuberculosis, whether acquired or inherited. Although there is no harmonious agreement concerning its use and value, I feel convinced that we possess in tuberculin an agent by means of which existing latent tuberculosis can be reliably discriminated from mere predisposition. The question of dosage is vitally important. I have a fixed belief that greater uniformity of results of Koch's method would follow, if medium-sized initial doses—from 2 to 5 milligrams—were employed. As elsewhere stated, this would obviate the necessity of repeated injection, as is generally the case when small commencing doses—from half a milligram to a milligram—are used. Accurate results in most reactive cases could be expected, and an increased dose, if the repetition were actually demanded, would be unattended by any risk for the patient.

But even after eliminating in this manner, latent and obscure forms of tuberculosis, I know of no way in which to estimate with precision the percentage of cases in which the predisposition is inherited. That the proportion of cases is smaller than had been held prior to the important discovery of the bacillus tuberculosis is unquestionably true. On the other hand, my personal experience and observation is entirely confirmatory of the fact that individuals belonging to a family in which tuberculosis is distinctly traceable are more prone to the disease than similar constitutions or persons who have no tuberculous family history. This is even more true of the cases of phthisis that occur in individuals possessing a robust build. Indeed, I fear that in consequence of the modification of professional opinion in recent times relative to the question of heredity, there is danger that too little attention is now and will be in future given to the question of family history. In support of this position, I may be allowed to quote Allbutt, who forcibly remarks, "every physician engaged in practice among the classes in which family history can be acquired is morally convinced of the bias of many families to tuberculosis, however their circumstances may appear; a bias often revealed at the attainment of a certain age." Dock and Chadbourne in a statistical study of this subject also conclude that multiple appearance is commoner in families with tuberculous parents.

After making due allowances for all modifying circumstances, particularly accidental infection, including especially infected homes and prolonged contact with tuberculous subjects, I entertain no doubt that a predisposition to this affection may be inherited, and this tendency is more unfailingly transmitted through the mother than the father. It is analogous to the heightened receptivity or susceptibility that is observed throughout successive generations in certain families to typhoid fever or acute articular rheumatism. Finally, this increased susceptibility, which we [illegible] in a limited number of families, is dependent on a lack of resistance of the animal-cell and the latter [illegible] in turn [illegible] a faulty metabolism or nutrition.

TUBERCULOSIS AND INSURANCE.*

E. FLETCHER INGALS, M.D.
CHICAGO.

This subject, in order to be [illegible] be considered from two [illegible] diametrically opposed to each other and [illegible] therefore, hardly be [illegible] The two sides of the [illegible] benevolent features. [illegible] several policies in [illegible] I [illegible] more interested in the [illegible] highly appreciate the [illegible] widows and orphans [illegible] might say a [illegible] trusts, nevertheless [illegible] the rule, "[illegible] therefore that [illegible] pany itself, [illegible] who are insured in mutual companies, is really what will be the greatest good to the greatest number.

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* Presented in a Symposium on Tuberculosis, to the Section on Hygiene and Sanitary Science, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

* Presented [illegible] on Hygiene and Sanitary Science, at the [illegible] of the American Medical Association, held [illegible] June 5-8, 1900.

Statistics from the mortuary tables of several of the largest companies in this country show that fifty years ago over 20 per cent. of the deaths were the result of tuberculosis. Until Koch's discovery very few cases besides those of pulmonary consumption were recognized as tuberculous diseases; therefore, it seems probable that nearly half the deaths of persons insured fifty years ago were from tuberculosis; but whatever the number may have been, business methods certainly require exercise of the greatest care to exclude undesirable risks.

I have been told by officials of life insurance companies that medical examinations appear to reduce their death-rates only during the first six years of the life of policies; but a large percentage of policies lapse or are surrendered during the first six years. These facts emphasize the necessity for the most thorough medical examinations if an insurance company is to do a safe business. The points which appear of greatest importance in this examination and to which the examiner should give greatest attention are:

1. Weight, which in a general way determines the state of the nutritive functions better than anything else. The abnormally light body in a large percentage of cases is the one that will sooner or later become tubercular.

2. Poor digestion. This often causes the light weight and indicates feeble resisting power, which makes the individual peculiarly vulnerable to tuberculosis. In many these two symptoms indicate that the tuberculous process is already established.

3. Pulse. Although there are many healthy persons in whom the pulse is easily accelerated and although it is above 80, while standing, in the majority of men brought in for life insurance examination, yet a persistently fast pulse of 100 to 120 must be looked on as one of the most frequent symptoms of tuberculosis.

4. Frequent attacks of bronchitis. It appears to me very doubtful or even improbable that catarrhal bronchitis often leads to pulmonary tuberculosis, yet if we accept the statements of applicants we must not forget that these so-called attacks are often only exacerbations of the symptoms of pulmonary tuberculosis.

5. Frequent pneumonia. Repeated attacks of pneumonia must leave the lung in a crippled condition, which, other things being equal, would favor the development of pulmonary tuberculosis; yet recovery from pneumonia may in some instances be considered a most favorable prognostic, indicating that the individual is immune to tuberculosis.

6. Repeated attacks of pleurisy appear to be usually of tuberculous origin.

7. Heredity. It is a rule with some of the best companies to reject all risks where a parent and one brother or sister have died of consumption, unless the applicant has passed the age of 35. I believe this a prudent precaution, essential to the welfare of all policy holders in mutual companies. In recent years many physicians of large experience have come to doubt the importance of this factor, and it has not been difficult to find statistics to support their contention, because in nearly all statistics the most important factor is ignored or can not be found. The missing factor is: How many cases would have occurred without hereditary predisposition?

The fact that the Brompton Hospital reports show that one parent has had phthisis in nearly 25 per cent. of the cases of consumption does not by any means show that neither parent has suffered from phthisis in the other 75 per cent., nor yet that there would not have been an equal number of deaths from this disease if neither parent had suffered from it. The same may be said of Fuller's statistics, which show that when parents, grandparents and uncles and aunts are considered, 59.5 per cent. of the antecedents have had pulmonary tuberculosis. Williams' figures show that out of 484 cases of phthisis in which some of the relations had died of the disease, in 224, or over 46 per cent., the relationship was that of brother or sister. If these could be added to the above figures, probably not far from 80 per cent. of all cases would show hereditary predisposition, which is the whole percentage of the human race that are now believed to have tuberculosis at one time or another in some form.

When we take into consideration the missing factor we must admit that even these overwhelming figures prove nothing; and in fairness we must allow for common environment and contagion, the first of which might explain in some cases the occurrence of two or more cases of consumption in one family. Osler states that in 427 cases in the Johns Hopkins Hospital, 25, or nearly 6 per cent., occurred in married people where the husband and wife had suffered from the same disease. This is grasped by some as proof of contagion, but there is no accompanying proof that the relatives of these persons did not have tuberculosis in some form.

Direct transmission of the bacilli from mother to offspring has now been proved in several cases, though this must be very infrequent. Every one is familiar with the marvelous influence of heredity in perpetuating mental as well as physical peculiarities, or predisposition or immunity to some other disease, such as croup, measles, scarlet fever, smallpox, etc., numerous interesting examples of which might be given; then why should we question the transmission of that peculiarity which renders some susceptible to tuberculosis and enables others to withstand all the attacks of the bacilli and their toxins?

The records of the Paris morgue and several laboratory observations have shown that in healthy bodies, of those dying from accident, suicide or acute disease, tubercle bacilli may be found in a large percentage; or scars from previous tubercular foci are present. In 125 autopsies in the Foundlings' Hospital of New York, tubercle bacilli were found in the bronchial glands in every case. These various facts render it probable that all of us harbor the tubercle bacilli at some time, but if we inherit strong constitutions and avoid vicious environment we need not die of tuberculosis.

As examples of hereditary influence that can not be explained by the theory of contagion or similar environment, I may briefly mention two families among by personal friends. In a family with 12 adult brothers and sisters, the father had light eyes and the mother, who died of consumption, had dark eyes; three of the dark-eyed children, after they had left the parental roof and had homes of their own, died of pulmonary tuberculosis, though not subject to contagion and although living under entirely different environment. Another dark-eyed sister lost two dark-eyed children after they were grown, though her light-eyed son, who was constantly with his brother and sister, escaped. In the other family, the father when a young man suffered from consumption but recovered. His four children after arriving at adult life died of consumption, though under very different environment.

8. Hemoptysis. Cases of hemoptysis without other evidence of tuberculosis, or at least cases of hemoptysis

that have not been followed by recognizable tuberculosis, are fairly numerous, yet those who have had much to do with pulmonary consumption must admit that in the great majority of cases hemorrhage from the lungs or air-passages result from this cause; therefore, the rule that no applicant for insurance who has had hemoptysis should be accepted, until ten years have elapsed after the last hemorrhage, seems strictly just from a business standpoint.

9. Temperature. Daily elevation of temperature of from 2 to 3 F. is a very frequent sign of tuberculosis, but we must not forget that a daily elevation of 1 to 1½ F., sometimes extending over several months, is common under a great variety of conditions, which are not followed by any evidence of tuberculosis, as, for example, in simple catarrhal inflammation.

10. Physical signs of loss of elasticity, or pulmonary consolidation. It seems needless to emphasize the importance of rigid examinations under favorable surroundings, and this necessity ought to impress on the companies the paramount importance of having applicants examined at the examiner's office, instead of elsewhere. Considering the great importance of careful selection, I am surprised that some companies, from false ideas of economy, pay fees that are wholly inadequate for competent and careful service. No matter how well disposed an examiner may be, he will not give any considerable part of his services in these cases gratuitously, and the company will obtain from him only the amount of skill and care that it pays for. Statistics from one of the large companies show that, by careful selection on the lines I have just enumerated, it has progressively reduced its death-rate from consumption from 20.8 per cent. in a thousand 50 years ago, to 5.5 per cent. in the last five thousand deaths among its insured.

Recurring to the question: Are there any conditions under which the tuberculous may be insured, with any kind of policy and at practicable rates? I may answer that most companies accept certain risks that are in all probability tuberculous, providing the heredity, the previous history, and the environment make it appear probable that the individual will live long enough to pay the cost of the particular kind of policy that is issued. These policies must be credited partly to benevolence, though with the safe company the business interest demands very good judgment and a high premium in such cases. There are many more cases that might be safely accepted for limited periods; but the insurance company must always estimate the possibility of error or undue sympathy on the part of the examiner; therefore, it can not take any chances. There are also certain companies that make a specialty of extra hazardous risks at proportionate premiums. These policies are sometimes most beneficent, but usually the rates are prohibitory.

UNITED STATES GENERAL HOSPITAL FOR TUBERCLOSIS AT FORT BAYARD, N. M.*

MAJ. D. M. APPEL, SURGEON, U. S. A.

An order issued by the War Department, August 28, 1899, authorized the surgeon-general to establish a general hospital at Fort Bayard, N. M., as a sanitarium for the treatment of officers and enlisted men of the army suffering from pulmonary tuberculosis, and also to provide therein for the care and treatment of discharged soldiers entitled to the benefits of the U. S. Soldiers' Home, at Washington, D. C. Under the latter clause patients are enabled to remain under treatment indefinitely, even after their discharge from the army by reason of their physical disability or from expiration of their term of enlistment.

Fort Bayard was selected by the surgeon-general not only for its admirably suited climate but also because it was immediately available, its abandonment as a military post having been contemplated for some years, and, excepting for its isolation and difficulty of access, no better locality could have been chosen.

It is located in the arid mountainous region of Southern New Mexico, three miles from Bayard Station and ten miles from Silver City, both of which are on branches of the Santa Fé R. R. Having an altitude of 6040 feet, the climate permits of comfortable outdoor life during the entire year, and, excepting for the frequent high winds during the spring, is undoubtedly ideal.

When ordered to assume charge of the hospital I was directed to select and ship supplies as promptly as possible, to provide acommodations at once for a number of cases to be immediately transferred from the Soldiers' Home.

On my arrival, October 3, 1899, I found all the buildings, as well as the water and sewer systems, very much dilapidated, and extensive repairs and alterations, which were commenced at once, are still in progress.

The old post-hospital is now occupied as an infirmary for bedridden cases, including not only those in whom the disease is far advanced, but also the febrile cases, which are kept absolutely at rest until the subsidence of the fever.

The ambulant cases are obliged to remain outdoors at least eight hours daily during the entire year; they are not allowed to occupy their dormitories from 8 a.m. until 8 p.m., and the windows of the dormitories are always open. For those with severe cough, rooms with two beds are provided; the others are placed in rooms containing six and twelve beds and the convalescents are separated from those who still expectorate tubercle bacilli. All the patients are required to carry paper spit-cups, which must not be used longer than twenty-four hours and are then burned, and the orders against expectorating elsewhere are rigidly enforced. The alvine discharges of infirmary cases with intestinal tuberculosis are destroyed in a crematory.

Recognizing that the problem in the treatment of tuberculosis is essentially one of nutrition, no efforts are spared to provide abundant good and nutritious food. All the patients are weighed weekly, and the comparative report of such weights is regarded as an index of their general progress.

From Oct. 4, till Aug. 6, 1900, 165 patients were admitted, with results as follows:

	Discharged.	Remaining.
Not improved	14	21
Improved	20	54
Convalescent	11	26
Cured	4	1
	49	102
Died	14	

Cases are recorded as *cured,* when, after all symptoms have disappeared, they fail to react to the tuberculin test. Those in whom no tubercle bacilli are found after repeated examinations and all active symptoms have disappeared, but they still react to the tuberculin test, are classed as *convalescent.*

Though we have not yet completed our first year, our experience thus far tends to disprove the general op that altitude is contraindicated in laryngeal and hemorrhagic cases. In several cases admitted with laryngeal ulceration, the ulcers have healed, and in two cases who succumbed to their pulmonary involvement, and who on admission had extensive laryngeal disease, the larynx was found, post-mortem, completely cicatrized.

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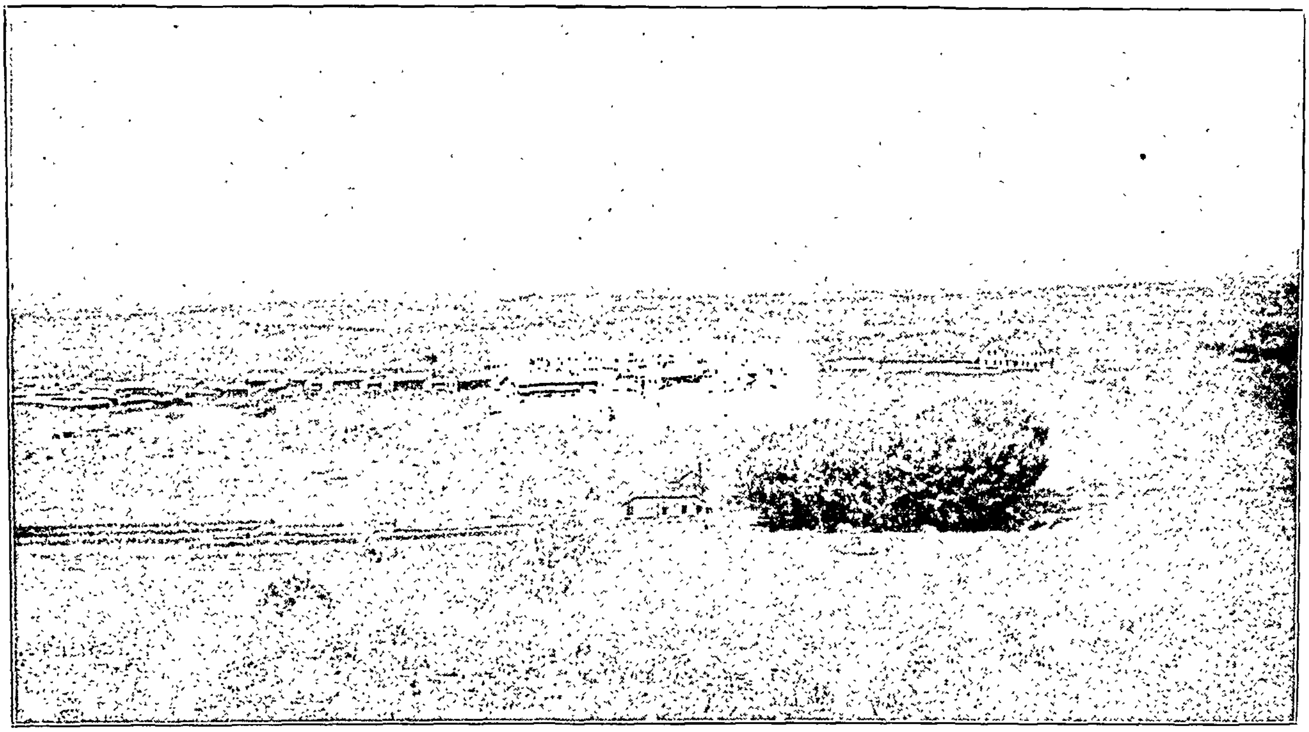
* Presented in a Symposium on Tuberculosis, to the Section on Hygiene and Sanitary Science, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

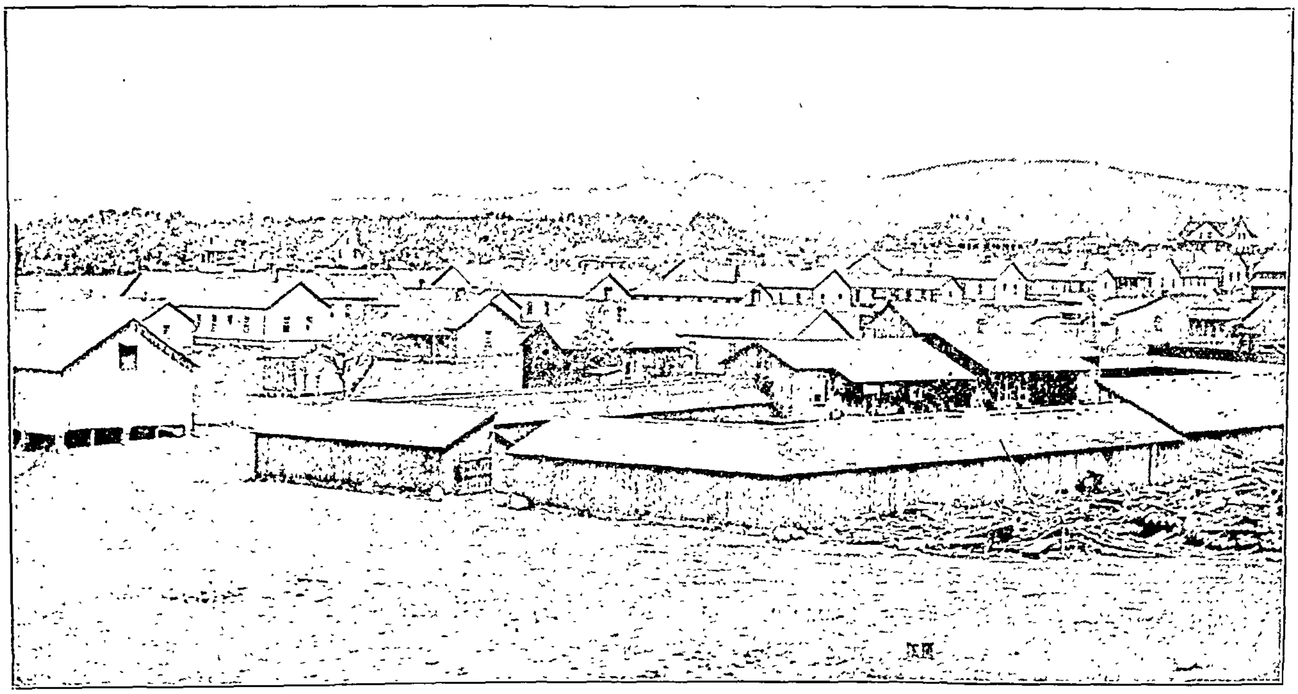
In quite a number of cases with a history of pulmonary hemorrhage before admission there has been no recurrence and in none has it been a serious feature.

Hectic fever is exceptional and usually subsides after a few weeks of complete rest. Night sweats are infrequent, and even in most advanced cases are readily controlled.

Many of those discharged "improved" and "convalescent" were no longer able to resist the pangs of nostalgia so prone to occur among the uneducated—which includes a majority of our cases—and which here is a result of the isolated location of the hospital and enhanced by the aridity of the vicinity. Others when discharged from the army are unwilling longer to submit to the necessary restrictions of the rules and regulations of an institution of this kind.



The majority of those discharged "unimproved" were advanced cases who preferred to return to their friends when told there was no reasonable hope of recovery.



The staff of the hospital consists of Acting Asst.-Surgeon James H. Hepburn and Acting Asst.-Surgeon E. S. Bullock, pathologist; Chaplain S. N. Pilchard, and Capt. H. McL. Powell, 14th Infantry, quartermaster and commissary.

There at present on duty seven female nurses, two of whom are employed as dietists, one hospital steward, two acting stewards, and sixteen privates of the hospital corps. In addition, a number of civilians are employed as cooks, baker, dairyman, watchman, teamsters and laborers.

I trust that after the hospital has been in existence for a sufficient length of time it will furnish interesting and perhaps instructive results.

THE ADVANTAGES OF THE SANITARIUM TREATMENT OF TUBERCULOSIS WHEN CHANGE OF CLIMATE IS NOT POSSIBLE.*

E. S. OLIVER (Johns Hopkins.)
SARANAC LAKE, N. Y.

The writer has for two years past been living at Saranac Lake, N. Y., as a patient and physician, studying the problem of tuberculosis in his own person, in the Saranac laboratory for the study of tuberculosis, and as a member of the staff of the Adirondack Cottage Sanitarium. The views he is about to express are the results of two years' study and observation, and are to be regarded solely as the expression of his own opinion and not in any sense to represent officially the institution with which he is connected.

As may be inferred from the title, it is accepted as a foregone conclusion that sanitarium treatment is the only solution of the many problems presented in this protean disease. The conclusion reached by the Berlin Congress and International Medical Congress in Paris leaves no room to doubt that the sanitarium treatment accomplishes what no "specific"—whether serums or drugs—can alone accomplish, and is capable of achieving, unassisted, all the beneficial results that can be claimed for either serum or drugs. Let us examine for a moment what may be regarded as the essential principle of the sanitarium treatment. First, unquestionably, comes the giving up of former habits of life, and the change from the old surroundings combined with the change to a more favorable climate. We, in Saranac Lake, are convinced that there is much of healing in the climate alone, and those of us who have suffered personally from the asthmatic breathing that so affects the tuberculous patient can testify to the vast difference in the quality of the air in the Adirondacks, as compared with that at our homes, and many of us go so far as to detect fine shades of difference between the air at Paul Smith's, that at Lake Placid—nay, even that at the Sanitarium, as compared with that at the village one mile away and 300 feet lower. We may as well admit that there is nothing essential in the altitude to which the patient resorts. The isolation of the patient from his family and community is of the utmost importance in combating the spread of disease. On the other hand, the segregation of persons more or less affected with the disease, especially of those in the same stage of progression, does away with the sensation of being an object of repulsion and danger—of being an outcast—which overwhelms the modern leper so long as he is in the company of sound and healthy individuals. This association with other patients supplies to him the social intercourse for which he longs in his enforced isolation and serves to combat homesickness, the pangs of which lead many hopeful cases to throw away their chance of recovery—for the mere sake of seeing familiar faces and hearing familiar voices. The sanitary precautions insisted on in the Sanitarium completely removes the danger of further infection and makes association with those recognizedly consumptive fraught with less risk than the average individual encounters in the street cars and stores which are the scenes of his daily labors. Moreover, the education which the sanitarium imparts as to the dangers of carelessness in disposing of the sputum is full of object lessons in themselves sufficiently valuable to justify the maintenance of such institutions. But it is the regulated out-of-door life amidst hygienic surroundings, with diet selected according to the individual's needs as carefully as his medicines are prescribed for his symptoms, and in the application of the best tried and most rational methods of medical treatment, that we find the vital essence of the sanitarium treatment.

The question of exercise is one on which Dr. E. L. Trudeau takes perhaps the most advanced position of all those who have successfully treated tuberculosis by the hygienic method. Exercise further than that necessary to go and return three times a day from the patient's cottage to the central dining hall is forbidden in the Adirondack Sanitarium to all those patients who reach a maximum temperature daily of 99.4 F. (37.5 C.). In cases maintaining for a considerable period a temperature of 100.5 F. all exercise is forbidden, and the patient remains at his cottage, lying in his cot on the veranda, where his meals are served by an orderly, from a diet selected according to the prescription of the physician in charge.

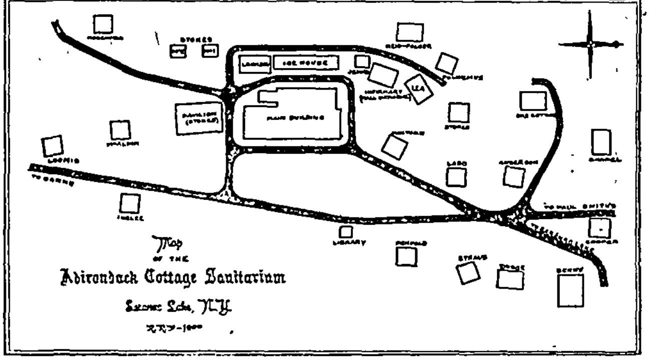


Figure 1.

RESULTS OF SANITARIUM TREATMENT.

To an observer who has studied tuberculosis in the wards of the public hospitals and sees for the first time the patients in the Adirondack Sanitarium, the first impression is one of absolute skepticism that these people, who present all the features of robust health, can be suffering from the dread destroyer with which he became familiar in his student days. The visitor finds that he is almost the only one on the grounds who coughs. He is conscious that he looks anemic and emaciated by the side of the consumptive, and he is apt to hurry away lest some other visitor will take him for the consumptive; nor is he unwilling after his visit to believe that of all patients, including those entering the sanitarium in all stages of the disease and remaining at least nine months under treatment, 34.5 per cent. go away apparently cured, while of those actually in the incipient stage 73.4 per cent. are apparently cured.[1] Not only the apparently cured, but many of those in whom the disease is merely "arrested," have been able to return to their vocations and live a practically normal life for a period ranging from one to fifteen years. To give a concrete idea of the results from our practical everyday experience among the Sanitarium patients, let me cite the instance of two patients whom I have just encountered on the street and asked for the record of their weights.

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* Presented in a Symposium on Tuberculosis, to the Section on Hygiene and Sanitary Science, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

[1] Vide the excellent paper entitled: The Result of Sanatoria and Social Hospital Treatment in Pulmonary Tuberculosis, by H. McL. Kinghorn, M.D., Saranac Lake, printetd in the Montreal Medical Journal, July, 1899.

W. H. B. entered Sanitarium June 30, weighing 134 pounds; July 7, weighed 139 pounds; July 14, weighed 146 pounds; July 21, weighed, 149 pounds; July 28, weighed 153 pounds; August 11, weighed 158 pounds; August 18, weighed 161 pounds; August 25, weighed 164½ pounds.

H. P. D. entered the Sanitarium June 23, weighing 130 pounds; July 14, weighed 138 pounds; July 28, weighed 146 pounds; August 11, weighed 151 pounds; August 25, weighed 154 pounds.

A study of the official weight-book will show a score of such phenomenal gains in weights.

The accompanying charts taken at random furnish the most convincing evidence that pyrexia can most successfully be treated simply by the rigid observance of rest and outdoor life.

Cough as a symptom has much more significance for the patient than for the physician. I have repeatedly seen patients enter the sanitarium with a cough that kept them in paroxysms night and day, who could not walk from their cottage to the dining hall without pausing three times to expectorate in the receptacles provided on the ground. I have seen them lose their cough in a week or ten days, save for a single more or less violent paroxysm on retiring and on rising, and have heard them report the expectoration diminished in three weeks from three or four ounces on admission to half an ounce daily, when they were subjected to no treatment other than the hygienic routine of outdoor life in all sorts of weather.

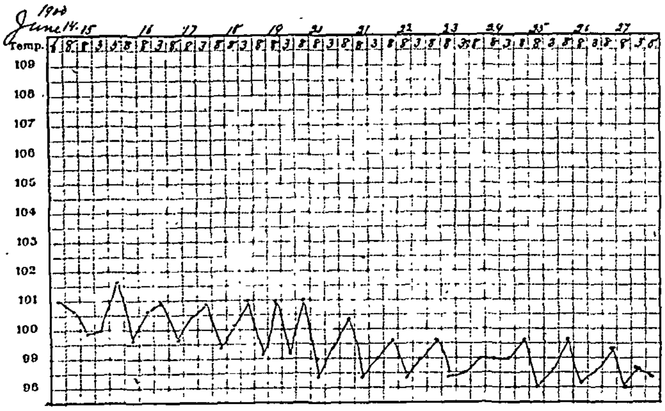


Figure 2.

The amount of food consumed at table three times daily by the patients, and between meals when so prescribed, is such as would surprise the hardest-working day-laborer of your acquaintance and give you reason to fear that some acute dilatation of the stomach must inevitably follow, until you had become accustomed to the appetite whetted by the tonic breezes of the Adirondack region.

As Dr. Trudeau has shown in the all too few articles he has written for the instruction of the profession, the early diagnosis is the cardinal factor in the cure of the disease, and not alone in the cure, but in the sanitary prevention of its extension. Early diagnosis becomes thus the keystone in the arch on which we are to build the structure of our barrier against the "white plague."

The average family practitioner recognizes the disease only when the symptoms are so prominent and the physical signs so unmistakable that the patient is already too far gone to stay his downward course.

The plan I propose is that where a general practitioner, or a specialist in pulmonary disease, has under observation and advice two or more cases really incipient, he should have sent them to a cottage, rented or built for the purpose, in some favorable situation in the suburbs of his city or town, say ten miles from its limits, where the air is uncontaminated by dust or smoke and the surroundings rural and attractive; a trained nurse should put the patients through, under the physician's close supervision, the regular sanitarium life as it is pursued in the Adirondack Cottage Sanitarium and the Muskoka Sanitarium on this continent, and in similar institutions in Europe, notably in Brehmer's Sanitarium at Gerbersdorf, in Detweiler's at Falkenstein, and in Walther's at Nordrach.

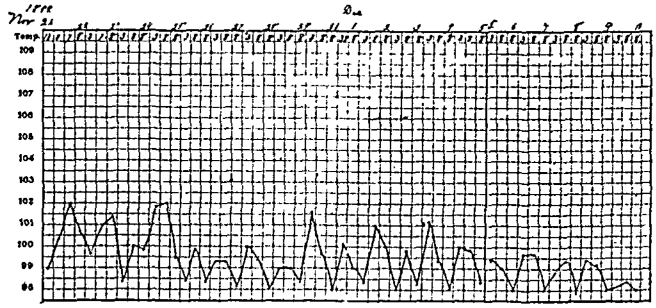


Figure 3.

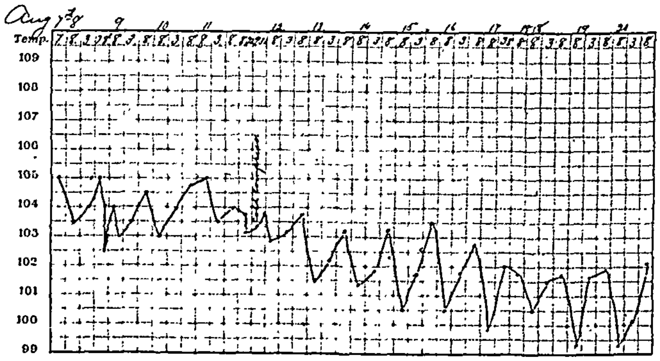


Figure 4.

In choosing a site for the miniature sanitarium, let a slight elevation be selected for the cottage, the exposure of the main verandas and bedrooms for patients to be on the south. The chosen location should be far removed from the din and bustle of the town, but near enough to some railway or tramway to give to the patient's family and business associates the opportunity of calling on him at such times as may be prescribed by the physician. If the roads in the neighborhood are suitable for driving, great pleasure and a considerable aid in the treatment is provided for. Of how little real moment the change of climate is, provided a rigid sanitarium treatment is pursued, is shown by the cures achieved in the Hôpital Boncecaut, located within gunshot of the fortifications surrounding Paris. Often a cottage may be found already built which may be adapted to the treatment proposed, but probably it will in most instances be found advisable to build a structure especially contrived to meet the needs of so unique a routine of daily life.

I append to this paper plans for such a building, drawn by a competent architect, Mr. W. H. Scopes, of

Saranac Lake, which will be found to embrace all the essential features of the sanitarium on the "cottage plan" rendered famous by Dr. Trudeau's work. It provides for a cellar, with plants for hot water, heat, coal-bins, pantries, and water closet for servants. The first floor (Fig. 7) offers a general sitting-room, dining-room, kitchen, bathroom with all the necessary appliances, two bedrooms, the nurse's bedroom and her office and consulting-room. Open fireplaces are provided, both for the sake of ventilation and for their cheerfulness.

The second-floor plan (Fig. 8) shows a scheme for four additional bedrooms for patients, and in the third floor, as shown by the side elevation, are rooms for the cook and chambermaid (Fig. 9).

The covered veranda around the southern and western sides on the first floor, and the open veranda on the second-floor, offer the best possible opportunities for that life of repose in the open air which is the essential point in the treatment, according to the open air plan. Lounges, reclining chairs, hammocks or camp beds are furnished to suit the tastes of the patients. The rooms should be wainscoated to a height of six feet and finished in plaster, and "moresco" for the rest of the walls and ceiling. The floors are best made of hardwood, oiled and polished, or else covered with linoleum, with a rug or two of some washable stuff. Electric light is the only form of artificial lighting permissible. The windows should be of ample size, and of the fashion that permits them to be raised and lowered, and in the same frame revolved on an axis, all of which movements are accomplished by the device known as Bolles' patent. The same revolving principle should be applied to the transoms, which occupy the upper three feet of the wall separating the two first-floor bedrooms from the central sitting-room. This scheme of ventilation permits the air to be changed constantly through the night, so that the same air is never breathed twice while the patient occupies the room, and it continues the fresh-air treatment even throughout the time the patient spends indoors—a most important consideration. No draperies or carpets are to be permitted except a small rug in the sitting-room. The sitting-room can be as handsomely furnished as may be desired. How homelike and cheerful such quarters can be made, even when complying with the sanitary requirements mentioned, may be judged from Figs. 5, 10 and 11, which are amateur photographs of the sitting-rooms and bedrooms in several of the Adirondack Cottages. The daily routine of life must be ordered according to the precepts of experience.

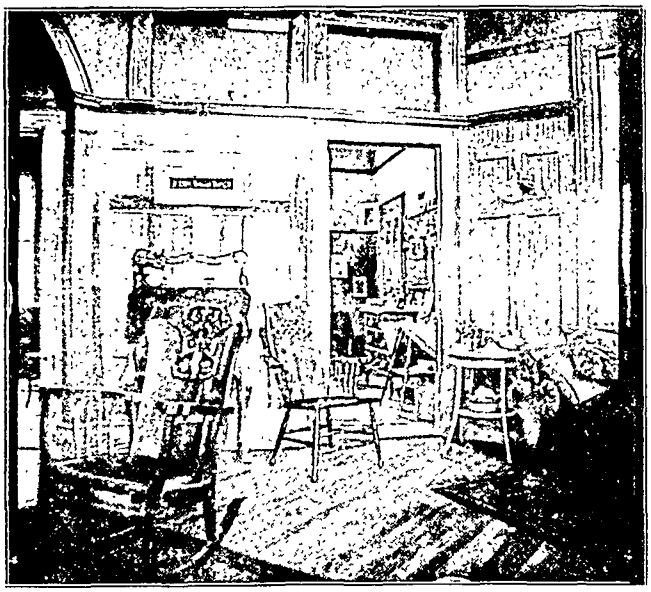


Figure 5.

I present the daily program of a patient in the Adirondack Cottage Sanitarium:

7:00 a. m., temperature taken while patient is in bed.

7:30, patient rises; sponge bath—cold or tepid.

8:00, breakfast.

8:30, patient reports at pharmacy or physician's office; while waiting can write letter and send it off in the 9:30 mail.

9:30, a stroll if permitted to exercise; or a drive, if not.

10:30, a glass of milk or an egg, or both; reads, studies or works unti 12 m.

12 to 1, rest in a hammock or on a couch in the open air until dinner.

Dinner. After dinner, rest until 3:30, temperature taken and then extra nourishment given.

3:30, milk or egg, or both.

3:30 to 5:30, patient reads, studies, works, strolls or drives, according to strength and the doctor's advice.

5:30 to 6, patient lies in the hammock or on a couch in the open air.

Figure 6.

6:00, supper.

6:30, patient reports, if necessary, at the physician's office; sits or lies on veranda, or attends some form of amusement provided in the parlor or pavilion.

8:00, temperature taken.

9:00, extra nourishment, milk or egg, and retires.

Letter-writing is limited to the bare necessities of correspondence and is done only in the morning hours.

All forms of mental and physical exertion are forbidden so long as there is active disease, with elevation of temperature above 99.4 F., or other constitutional symptoms. The reading is selected to divert the patient's mind from his afflictions to more cheerful topics, and games are allowed, provided they do not involve any harmful exertion of mind or body. The social life in the Adirondack Cottage Sanitarium is a feature which strikes every visitor as unique. Knopf remarks especially on the gay spirit which prevailed when he visited the Sanitarium in 1896.

The food provided at the Adirondack Cottages is selected by the superintendent, Mrs. Julia A. Miller, from a long experience in such work. For breakfast: fruit, oatmeal, wheatena, "Pettijohn," beefsteak, lamb chops, bacon, eggs cooked in a great variety of ways—soft-boiled, scrambled, fried, poached, made into omelettes, etc.—brown bread, wheat bread, corn bread, muffins, griddle cakes, etc. For dinner: a simple but appetizing soup, fish, roast or boiled beef, roast lamb, fowls prepared in various ways, cornbeef, vegetables, cabbage, tomatoes, potatoes cooked in an infinite variety of ways, beets, peas, beans, rice, lettuce, squash, asparagus; for desserts, ice cream, nuts, pies, puddings, custards, jellies, fruits. For supper: one hot meat, cold meats, white and brown bread, toast, some hot cereal food, baked beans, potatoes, eggs, preserved fruits, jellies, jams. Milk is furnished at the table at every meal, and is provided for each patient to take with him to his cottage for the between-meal nourishments.

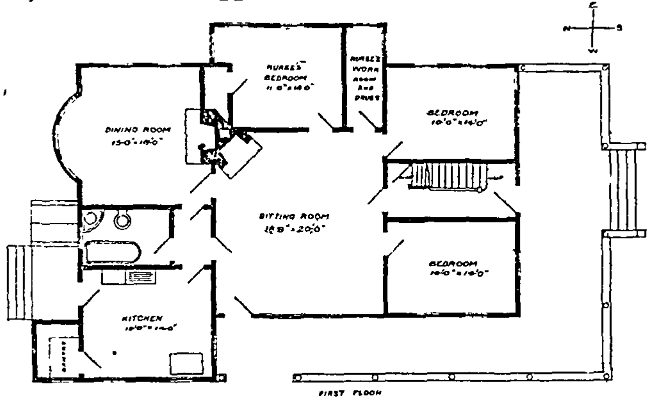


Figure 7.

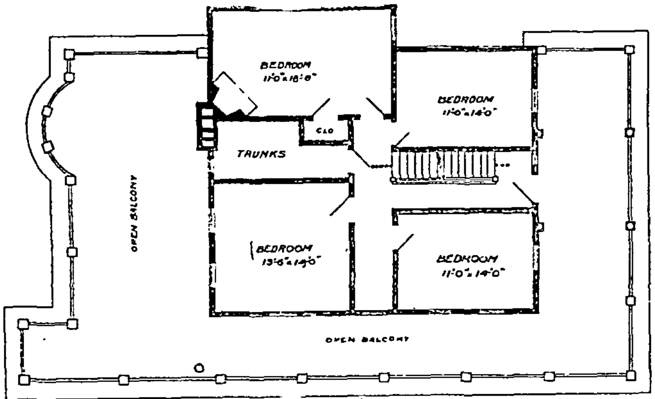


Figure 8.

With the special symptoms that present themselves for treatment, I do not purpose dealing at this time. Suffice it to say that they are all treated with as little resort to drugs and from the most common-sense point of view that can well be imagined. Dr. Trudeau and his assistants practice medicine not by rule of thumb, but according to the dictates of a large experience, based upon a profound knowledge of the broad principles underlying all disease and its treatment.

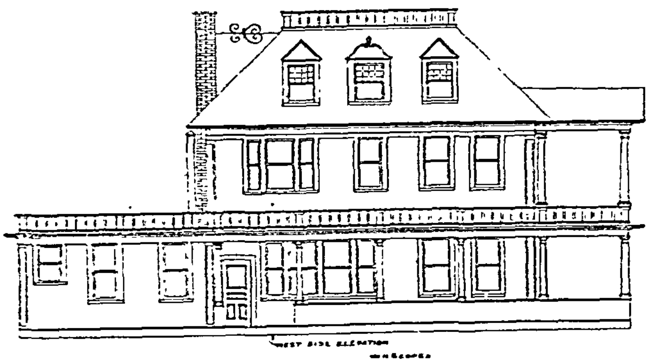


Figure 9.

Let me point out briefly what are the chief advantages of the plan proposed, 1, to the physician; 2, to the patient; 3, to the nurse; 4, to the family of the patient and to the community in which he has been infected.

The physician is enabled to keep his patient under his own supervision instead of intrusting him to a stranger. His patient remains a source of revenue to him, instead of dropping out of his practice, a consideration which has more or less force for every family practitioner. He is guaranteed by the presence of a trained nurse that each of his patients will get the best treatment possible, and that every rule laid down will be rigidly followed. This can not be said for any scheme which leaves the patient in the hands of his family. The family physician, moreover, gets the credit for the recoveries, which his early diagnosis, watchful interest and skill as a therapist have brought about. This contributes to his influence and future usefulness in the community and puts on him the necessity of keeping himself familiar with all the practical details of sanitarium treatment by which the best results can be obtained.

The trained nurse is freed from all those trammels which hamper her when she is trying to carry out the instructions of the physician in the face of the prejudices and sympathies of the patient's family. Those under her care are placed in the situations most convenient for her manipulation, and the plans presented enable her to move a patient from any room, through a window cut down to the floor, out to the veranda, thus saving strength and facilitating work. The plan provides for the easy enforcement of every sanitary regulation, preserving the nurse and the fellow-patients from risk of infection. She, with the physician, has the most favorable conditions for herself and her patients. She shares in the just credit due for their recovery and wins that repute as a successful practitioner of her profession which is as dear to the nurse's as to the physician's heart. The patient reaps every advantage that could be gained at the expense of a long trip to some health resort, a trip which, in his weakened condition, may prove most unfavorable to his prospect of recovery.

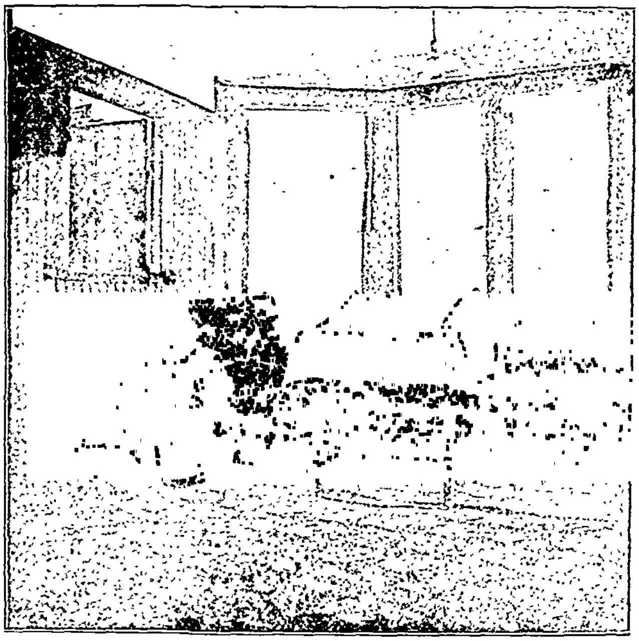


Figure 10.

The sufferer is under the daily supervision of the man he trusts most in the world, not of a busy stranger, whose few interviews with him are at best brief and confined to professional detail. He is attended by a careful nurse, who gives him every care that her varied experience can dictate. He has gained everything, and practically lost nothing, by undertaking the course of treatment.

The patient's family and community are saved the danger of infection, are given an object-lesson of incalculable value in the curability of tuberculosis and in the sanitary precautions which are effectual in preventing its spread. They have preserved to them the presence and influence among them of one who is a bearer of the heavy burdens and responsibilities of family, business and social life—for it is just such leaders among men and pillars of the social structure who are most often seized by the jealous dragon Tuberculosis.

What would be the cost entailed upon each patient who takes advantage of my plan? To completely build and furnish such a home as that shown would, at this period of high prices for lumber, plumbing, fixtures and furniture, cost $6000. The running expenses of the sanitarium must cover at least the interest on this. The following estimate for six months, based on actual experience, will represent fairly well the other features:

Figure 11.

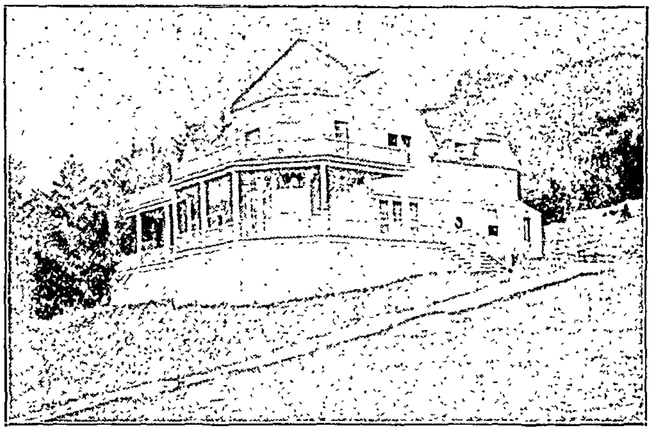
ESTIMATE FOR SIX MONTHS.

Interest at 6 per cent on $6000	$180
Services of trained nurse at $50 a month	300
Coal for cooking, 6 tons at $6 a ton (12 to 15 tons must be added for heating if the months be winter months)	36
Wood for open fireplaces, 10 cords at $3	30
Electric light, $5 a month	30
Hire of cook and maid, each $15	180
Table supplies, at $100 per month	600
Total for 6 months	$1356
Total for 1 month	226

The plan provides for the accommodation of six patients. Thus the cost to each of the six patients per month is less than $40. That is to say, at a cost of about $40 a month, apart from the physician's fees, an individual can have all the opportunities offered by the sanitarium treatment for the complete cure—in 75 to 90 per cent. of really incipient cases—of pulmonary tuberculosis, without severing the ties binding him to his domestic, business and social life.

The objection has been made by persons with whom I have discussed this plan that, without the shock that comes to a man from the complete breaking off of all his business and social relations, and without the enforced separation from them entailed by a change of climate, few persons really in the incipient stage of the disease can be persuaded to place themselves under a rigid routine of treatment. This does not seem to me a valid objection, for even in those cases which come hundreds of miles to such a resort as Saranac Lake, the ties of home and business life remain practically unbroken, and the sense of anxiety and the worry are just as great, or even greater, than if the patient were nearer home and had daily reports from his family and business associates. And it happens only too frequently here that patients coming from other more or less distant points soon tire of the routine, and are without sufficient will-power to persist in the rigid treatment without the example of fellow-patients and the discipline of a nurse, and after a few weeks or months of futile and desultory effort, or of days and nights spent in saloons or poolrooms, return to their homes discouraged, and before long meet the unfortunate consequences of their ill-advised action.

Every hope of success in this plan, as in every plan for the treatment of tuberculosis, depends on the iron will and the consummate tact of the physician and the nurse who have undertaken the task. Both of them will be obliged to study closely and deeply the methods pursued in the most successful sanitaria.



Cottage of Resident Physician, Adirondack Cottage Sanitarium, Saranac Lake, N. Y.

This leads me to a matter which has always been a source of wonder and dismay to me, namely, to find in my two years' stay here how few general practitioners ever come to Saranac Lake—in very truth, the fountain head of the rational theories of treatment in this country—to make a profound personal study of the methods actually in use here. These methods, as I have shown above, are daily offering, even to the untrained eye, the most striking illustrations of what can be done to combat tuberculosis, not merely in its earliest, but also in its middle and even later stages. I can point out any day on the streets of Saranac Lake a dozen—nay, a score—of cases who have come here in the last five or six years, and received the prognosis from even the most optimistic of physicians that death must inevitably ensue in four to six months, but who have in the face of his advice persisted in remaining here, and have been to all practical intents and purposes [illegible], and are now supporting themselves or [illegible] their daily exertions.

It is to me of profound significance that the one who hopes most in all these cases, and who is most loth to give up a patient, is Dr. Trudeau himself. He, more than any man in this country, has studied the possibilities of treatment and of cure in every form of pulmonary tuberculosis, and does not hesitate to-day to say that the more cases he sees, the less capable he feels of predicting what cases may recover.

THE SANITARIUM FOR CONSUMPTIVE SAILORS ESTABLISHED BY THE U. S. MARINE-HOSPITAL SERVICE AT FORT STANTON, N. M.*

J. O. COBB, M.D.

Passed Assistant-Surgeon U. S. Marine-Hospital Service.

There is a prevalent belief that the sailor does not have tuberculosis. Just because he is at sea breathing the purest air, we naturally think of him as having the greatest chance of escaping that dread infection. The public mind loses sight of the fact that the average sailor spends a great part of his life ashore, participating in drunken brawls, gambling in the vile holes underground in New York, San Francisco, Baltimore and all the large maritime commercial centers. The little time he spends in sleep when ashore is in sailors' boarding houses, usually filthy dives. In lieu of beds, there are rough bunks built in like a set of shelves clear up to the ceiling. Into these a little straw is thrown, and this is the bed of one man one night, and another the next, and so on. The straw is rarely, if ever, changed, and this is the only bed these poor fellows can get in these gruesome places. They need no covering, for the room is heated by the red-hot stove, around which some sit and smoke and play and drink the long night through. Such a place is awful to think about, and it is small wonder these men get sick; it is the greater wonder that every man so exposed is not rapidly infected with tuberculosis, for it is only reasonable to believe that all such places become infected in time. Then, too, it is easy to understand that one case may infect an entire crew at sea, on a long voyage, when the men are packed together like animals. The sailor breathes pure air only when he is on watch, but when he "turns in," his sleeping quarters are exceedingly bad—so bad that it is impossible to describe them adequately without subjecting one to the accusation of exaggeration.

We of the Service know that there are hundreds of consumptive sailors and our annual reports show that we have been losing on the average more than one hundred a year. Our experience has also shown us that all the cases that remain, eventually die; they drift in and out of the different hospitals, better to-day and worse to-morrow, and sooner or later serve as a necropsy study.

So it has gone for years. No movement which is purely humanitarian can be brought about without much talk and some sober writing. Officers talked and thought, but unfortunately this is usually what a non-political government officer is compelled to do—take it out in talking or writing, if he is so inclined. It is to the credit of the officers of this Service that they have ever been alert to the prevention, spread and proper control of the disease. The present surgeon-general, Dr. Walter Wyman, was the first in the Service to undertake to bring about the establishment of a sanitarium for consumptive sailors. This was many years ago, when he was a junior officer, and his efforts met with little encouragement, and although unsuccessful he can properly lay claim to being a pioneer. He did not forget his early ambitions after he became surgeon-general, and it fell to his lot to be the instrument to consummate the establishment of a sanitarium for consumptive sailors.

In December, 1898, I was sent on an inspection tour through Arizona and New Mexico for the purpose of recommending a site for the contemplated sanitarium. It was thought that as the Army had been first in the arid region—and of course had selected the most desirable site—abandoned posts would best serve our purpose as fulfilling the requirements of large tracts of land, good water-supplies, and that the data published by the officers of weather and other conditions would be very valuable as a guide.

After careful examination in both territories, Fort Stanton was decided on as best suited for our purposes, specifically and generally. The weather reckonings made by the Army, together with special reports by its officers serving here in early times, showed mild winters with delightfully cool summers. It was necessary to have a station combine these two features or else have two stations, one at a low level for winter and one higher for summer, for otherwise patients at low levels would lose in summer all that had been gained in winter. With its undoubted advantage of climate, a generous water-supply, a large reservation, and with substantial stone buildings, it is an ideal site.

Fort Stanton is situated in Lincoln county, N. M., about six miles from Capitan, the terminus of the El Paso and North Eastern railroad. The elevation is 6126 feet. There are 38 buildings of various sizes, most of them being of native rubble stone. There is room for 200 patients, besides quarters for officers and attendants. Repairs are going on, and new machinery is to be introduced shortly. A modern steam laundry and a one-ton ice plant are now contracted for, and the plans and specifications are being prepared for an electric-light plant and extensive repairs, which will be commenced this fall. All the buildings will be made modern, and the appointments will equal any in the country. The laboratory will be conducted especially in the study of the disease. The apparatus for the purpose is already on the ground and is temporarily set up in an old building awaiting the repairs on the executive building, where there is to be a room set apart for this purpose.

There is a large farm and garden attached to the station. On the farm is being raised all the forage and most of the grain for the horses, milk cows, cattle and chickens. In the garden we have a source of pleasure not often found at such institutions. We have all the fresh vegetables needed and such vegetables as can not be bought in this vicinity.

Our herd of Jersey milk cows supply all the milk used at the station. While speaking of the cows it may be of interest to describe the method of dealing with the milk. We try to have all the patients follow as nearly as possible the method of taking milk described by Dr. Bulkley. To make this a little more perfect, it is necessary that the milk should always have a given percentage of fat, and to obtain this our milk is cooled immediately after milking and run through a separator. The cream will turn out about 20 per cent. (volume), and then this is added to skim milk to make it 20 or 25 or 30 per cent. of cream, as is prescribed by the medical officer. In this way there can be no marked variation in the percentage of fat, as there would be on cold, stormy days, or in change of food or other well-known conditions, which cause a cow's milk and fat percentage to vary. We make some butter and buttermilk, and intend to make kumyss and kefir. The patients have increased so fast that we are not altogether prepared for them, as it was the original intention of admitting only twenty the first year.

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* Presented in a Symposium on Tuberculosis, to the Section on Hygiene and Sanitary Science, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

The reservation is very large and it is the intention to fence it for pasturage and to raise our own sheep and beef cattle. This will be not only a paying operation, but will give us fine meats. Fort Stanton was set aside for a sanitarium by executive order dated April 1, 1899, and the station was officially opened April 27, 1899. To date, there have been 70 patients admitted, 6 of whom have died, 17 have been discharged, 13 improved and 4 apparently recovered. Seven of those discharged improved are still under observation as attendants, of whom all appear to be well except one. This one, however, was a bad case, but is now doing well. Three cases reported as improved are working in the vicinity. One of these had both lungs badly infected, but as he was strong, had no fever and felt well, he obtained employment at the mines near here and is working every day. He reports that he still expectorates, but otherwise is still improving. Another has just gone to work. His trouble originally was a tubercular empyema, for which several ribs were partially resected. The other man is well.

Of the cases remaining we shall probably lose a few, but seven seem to be entirely cured and will be sent back as soon as the hot weather in the East is over. Twenty-one seem to be arrested, though the evidence of the disease still persists. Of those who died, only one was a good case when he came. This man had a small cavity, which apparently began to heal. He began to improve after a time, and would probably have recovered but for contracting tubercular pneumonia on his good side. Of the other cases which died, not one was considered, by the officers of this station, as good subjects for transfer and all died shortly after reaching here.

To get the patients constantly in the open air has been a most vexatious problem. Most of them came here from hospitals which were heated by steam and would have rebelled had they been put in the open air to sleep immediately after arriving. Knowing the sailor as I do, it was necessary that all this be brought about indirectly and gradually, and now they are very enthusiastic for the open air. All sleep with the windows and doors open and in the day they walk about, swing in hammocks here and there under the cottonwood or box-elder, ride the native ponies, which are for their use, or recline in easy chairs or amuse themselves by doing odd jobs. One man bought himself a tent and sleeps out every night.

Fig. 1.—Looking Across Parade Ground, Showing Capitan Mountains to the Northeast. Fort Stanton, New Mexico.

To find means of diversion or amusement has been a hard problem and will continue to be so. While they are running fever or otherwise doing badly, I have no trouble, but just as soon as they begin to get well they become restless for the water again.

In the matter of treatment, dependence has been put in keeping the men constantly in the open air and giving the best of food. However, we have had several cases with severe complications, malaria being the most frequent. Many of the men have [illegible] localities where they had [illegible] [illegible] have several under [illegible] organisms. D[illegible] loss of appetite in some cases hopelessly discouraging, these complications compelling us to give some medicine. Just here it is well to warn those who have not had much experience with heroin to be cautious in its use; the habit is easily contracted.

We have been making some careful observations of the effects of altitude. If mere clinical experience is worth anything at all it leads me to believe that most cases become anemic shortly after coming here. Of course, the blood-count and hemoglobin percentage are increased, but I feel certain, without being able to prove it, that it is not actually true. After a time the proper relative standing of the blood-count and hemoglobin is reestablished and the increase is actual, though the readings of the instrument may not show an increase. I have about decided that the blood tests can only be of interest as a guide to each individual's relative condition and progress. Collectively the tests are misleading.

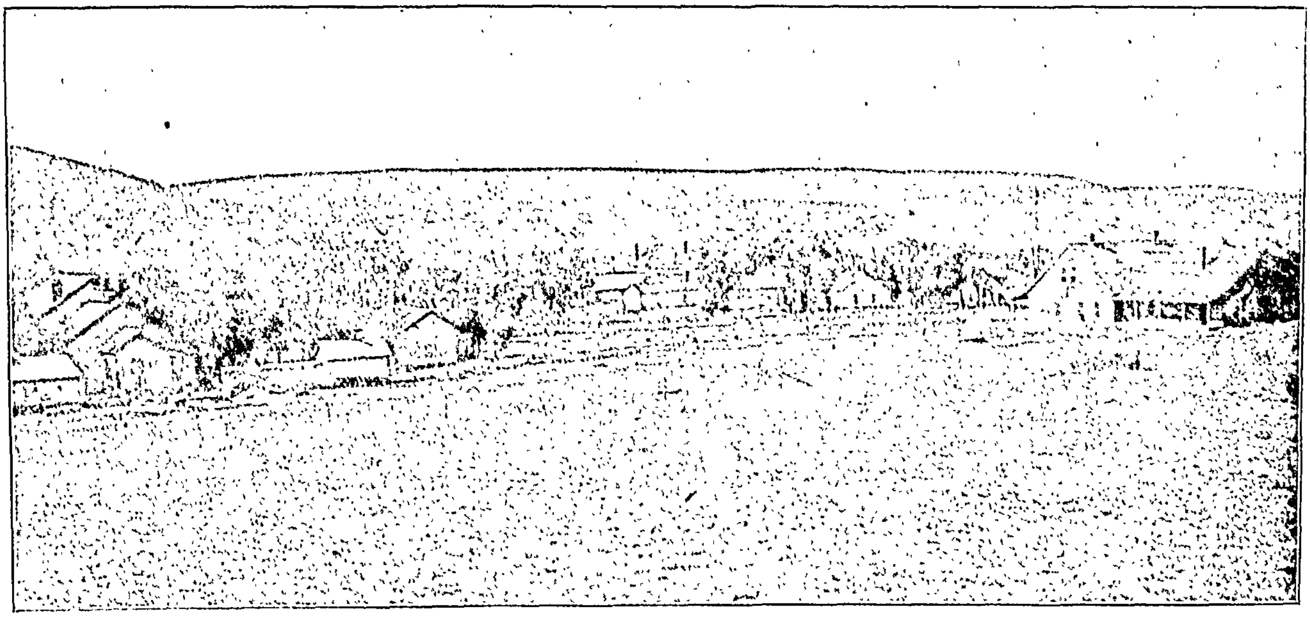

Fig. 2.—Group of Buildings Looking North, Showing the High Mesa on the North, Which Affords Protection from the Winds. Fort Stanton, New Mexico.

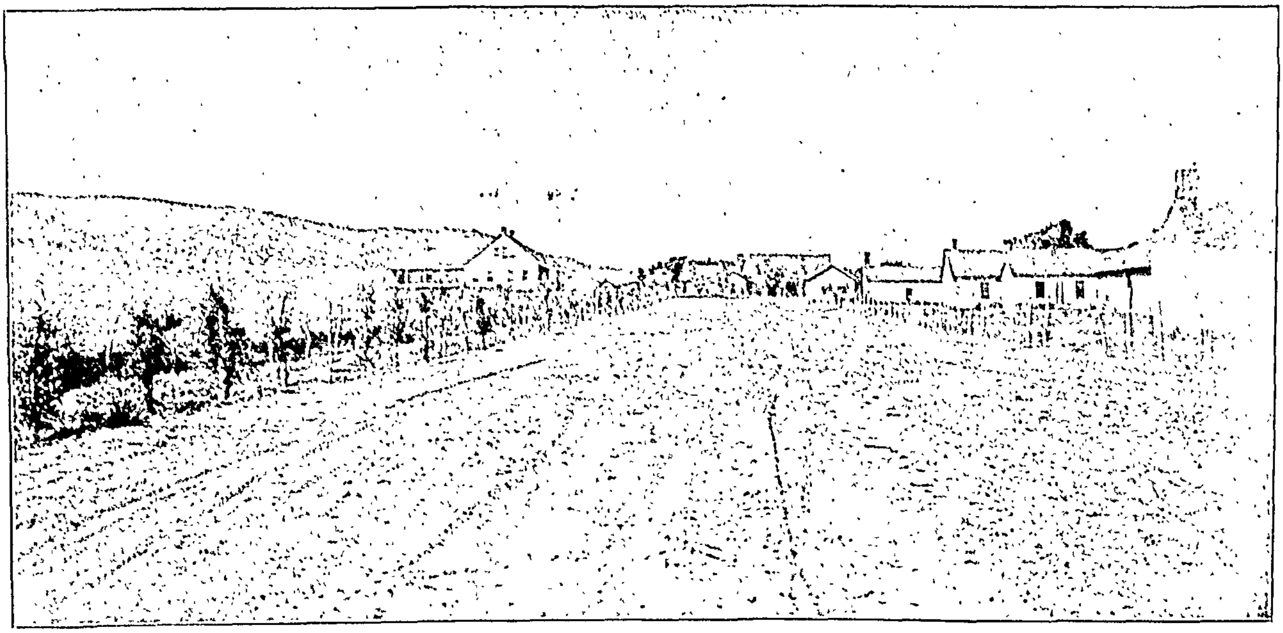

Fig. 3.—Looking up South Avenue, with Cottonwood Limbs Which Were Set Out This Spring, and Which Are Growing, Showing White Mountain to the Southwest and Mesa to the South. Fort Stanton, New Mexico.

We have noticed, too, that the majority of patients lose weight at first, notwithstanding an improvement in appetite and general symptoms. The urea percentage is markedly increased and has continued so with cases under observation.

The method of handling the sputum and preventing infection will be of interest to the general practitioner. There are no half-way measures. The theoretical part is nearly perfect and its execution will be almost so when all the sterilizers are put in place and in operation. I am happy to say that there is no such thing at this station as a spittoon, which demonstrates that a large institution can be run without one. To have a spittoon lowers the standard of effectiveness at once, for no one will deny the dangers of using one. Any method of sterilizing sputum except by incineration or steam heat is not perfect. Any method of collecting sputum by the process of ejecting it from the mouth at a distance into the receptacle is unsafe. The receptacle must be brought close to the mouth. The patient must have his own receptacle, for it is disgusting to see the sputum of others. To secure this desirable end we are using sputum-cups and pocket sputum-flasks. Each patient has a flask and cup, but I find that they dislike the cup and nearly all of them want to use the flask only. They carry the flask wherever they go, and use the cup in their rooms. Once a day at a given time every cup and bottle used is carried to the sputum room and there checked off, by an attendant, from a complete list of the patients. It is necessary to keep close watch on each individual, and take note whether he brings his cup and bottle for sterilization, for if we did not he might empty the sputum in the sinks and closets.

exasperatingly narrow in matters pertaining to public health, unless his pocket or the pockets of his constituents are affected. Let a wide and destructive epidemic break out among animals and then how prompt legislation is introduced to suppress it! There is money! It is a crying shame that this country, one of the foremost in all grand evolutionary movements, should have waited till the closing year of this century before joining in the sanitarium movement against the worst foe of mankind. What excuse can there be? None. The results were well known to be good and it was not an experiment. The way had been marked for us by Germany as a leader in this crusade with her first sanitarium in 1859 at Goerbersdorf, or 1854 according to Von Leyden. The impetus given to the sanitarium move-

[illegible]

The cups and flasks are [illegible] the temperature [illegible] This heat [illegible] easier to cleanse the [illegible] is not yet [illegible] individual [illegible]

We, as a nation, [illegible] and political [illegible] especially [illegible] by the [illegible] than [illegible]

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could go—and die. Make them comfortable has been the cry. The end was inevitable. A new sense of responsibility is now thrust upon the man or woman with means, for this frightful death percentage must not be. The case must be diagnosticated early, and that is the awful and fearful responsibility of the physician. And look to it, you who make snap diagnoses with the unaided ear through the patient's clothing and who never make thorough chest examinations of women at all; and you who stain one specimen of sputum and finding no bacilli declare the trouble is only bronchitis; or you, the worst offender of all, who withhold from the patient the true nature of his disease, allowing him to go on expectorating at random, spreading the infection broadcast and to the members of his own household! And I say to these, and to the vampire who holds his patients, drugging them to death, finally abandoning them when they are in a dying condition by sending them to health resorts, that the public is awakening to the realization of the danger of delay and in wrath will have none such as you.

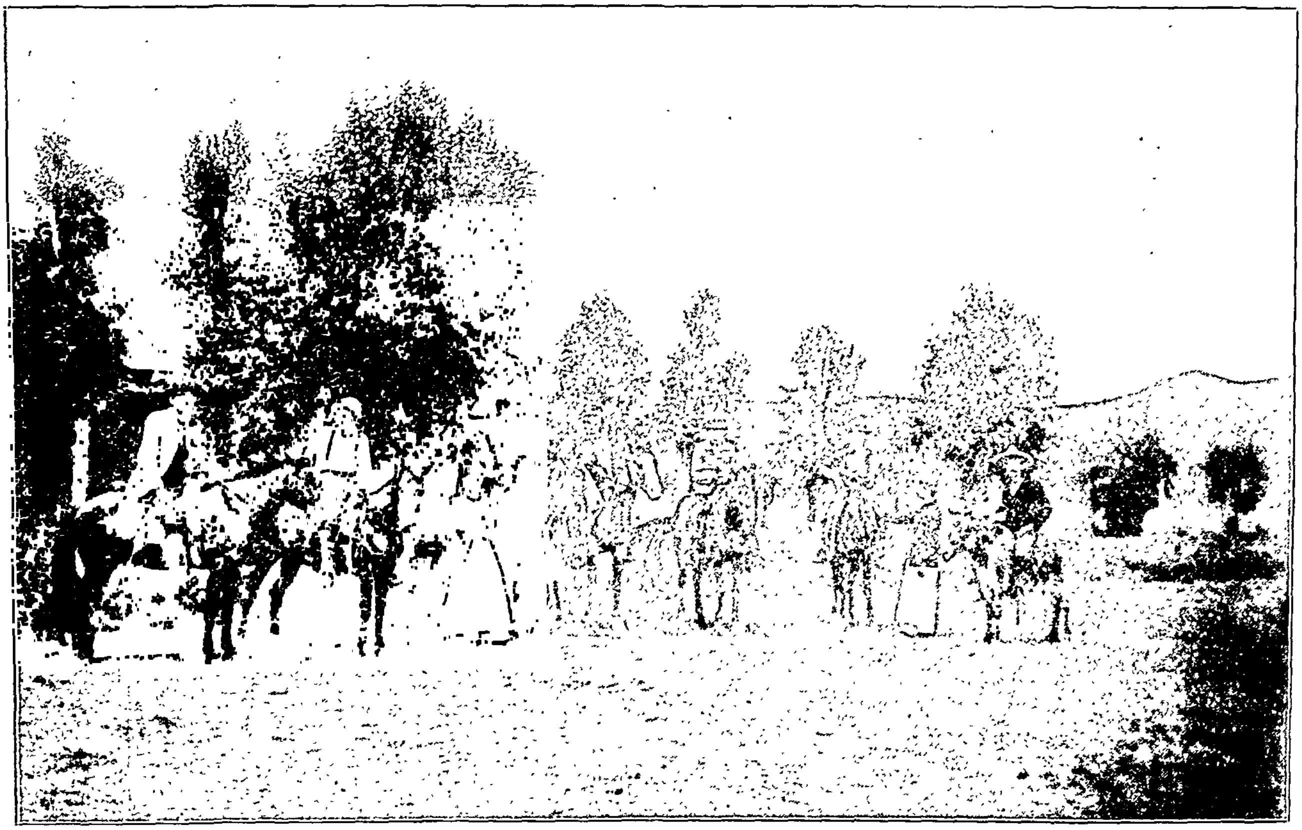

Fig. 5.—Patients Ready for a Ride. Fort Stanton, New Mexico.

The phthisiologist can not make a successful issue of this undertaking without the aid of the conscientious general practitioner. I am told that in Germany every medical man is alive to this question and the most careful examinations are being made to detect the disease in the first stage. Tuberculosis is not such a grave disease if taken in hand early and sent into the pure open air.

Medical men have no money, and if they diagnosticate their cases early, then the public at large, through its wealthy citizens or its municipal, state or governmental authorities, becomes obligated morally as well as socially and economically, to give the patient a chance for his life. It must not be care for the doomed and dying—the reach must be greater and extend out to the home of the sufferer. Man of wealth! Woman of wealth! Do not put your money in grand edifices in the overcrowded city where your philanthropy only serves to make a doomed consumptive's life comfortable for a few weeks, at most a few months. Go to the woods all about you and put these people where there be a chance for recovery and where they can return to their homes as useful citizens. This much may be hoped for, but even if the patient should die, we will have gained by removing the focus of further infection. This to me is the most important side of the subject.

All grand movements begin first with suggestions, and nothing is ever accomplished except by discouraging set-backs at every turn. Men like Trudeau can not help but look back with pride on their accomplishments under the very great drawbacks they must have had. What a sensation must the founder have had when, in 1884, the first little cottage at Saranac Lake came into existence! His was no selfish ambition; what must have been his hopes and fears? He would have been laughed at then if he had gone to Congress or his state with a bill to help erect this same little cottage. His patients were not animals and there was no loss to the pocketbook, therefore no need of legislative help.

The public is awakening to the danger. Towns, cities and states have become aroused, and now that our Government, first through the Marine-Hospital Service, and then very shortly after by the Army, has given its official cognizance of the importance of stamping out the white plague we may expect in the next few years a forward move of which we may be proud . Of course the work done by the government may, in a way, be comparatively small; yet of all the patients admitted were not one to recover, were all to die, still the good done to the community at large is inestimable. So many foci of infection removed from our ships in their world-encircling courses; from the barracks, camps and hospitals of the Army; from the sailors' boarding houses; from our general hospitals, where we have had such a discouragingly large percentage of deaths; to bring all these patients away from thickly populated centers, where they undoubtedly spread the infection, is an accomplishment itself of no mean importance.

With such opportunities for study afforded by the well-equipped laboratories, the ever-increasing clinical material, it is not too optimistic to feel that we may help to clear away one by one the many obstacles yet confronting the world in effecting immunity and cure.

THE DIAGNOSIS OF PULMONARY TUBERCULOSIS.*

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This may be a matter of considerable ease, or one of extreme difficulty, depending on the stage of the disease and the nature of the pathologic conditions. Let us first consider its diagnosis at an early stage. Tuberculosis is an infection, and as is the rule with infections, it occasions a rise of temperature even at its incipiency. Except very rarely, when the infection is violent or the disease assumes the acute pneumonic type, the elevation of temperature is slight, and may even escape detection. If the thermometer shows a constant elevation ranging between 99.5 and 100.5 F. it is in a suspected case strongly suggestive of tuberculous infection. The temperature should be registered not merely night and morning, but four or five times daily, as, for instance, at 9, 12, 3, 6, and 9 o'clock.

The pulse is as a rule accelerated and to a rate out of proportion to the temperature. But it should be remembered that an individual who is under examination for suspected tuberculosis is apprehensive, and therefore likely to manifest acceleration of the pulse. Nevertheless, the pulse-rate will be found to range in the neighborhood of 100, not rarely 120 or thereabouts. It is usually a pulse of low tension, and this is more characteristic than is an increase in the frequency. Undue rapidity together with lowness of tension forms, in the absence of signs of cardiac disease, a very suspicious combination. Its value is enhanced if conjoined with increased body temperature between the extremes noted above. The respirations may or may not be increased. As a rule in incipient cases there is neither subjective nor objective dyspnea.

Loss of weight is a suspicious circumstance and is an invariable accompaniment, I believe, of incipient pulmonary tuberculosis. It is so often slight that it escapes the patient's notice, and therefore his statements are not always to be relied on. The value of this symptom depends largely on its association with other symptoms and signs; without them it can scarcely be held suggestive of tuberculosis. Decline in strength and a falling off of appetite are also to be considered in doubtful cases, but are of small evidential value.

Cough is usually the first symptom to attract the patient's attention and to arouse apprehensions in the mind of the physician as well as of the patient. Although it is frequently symptomatic of this disease even at its invasion, still it is not invariably so, and taken alone has but small diagnostic value as regards pulmonary tuberculosis. In every suspected case in which physical signs do not settle the question of diagnosis, the upper respiratory tract and the heart should be carefully examined for an explanation of the cough. Aurists will say that even the ears should not be left out of the field of exploration.

Sputum is, for a time, absent in cases of beginning tuberculosis, but when present exhibits nothing characteristic, unless, of course, it shows bacilli. Even hemoptysis is not pathognomonic, although highly suspicious of pulmonary tuberculosis. When due to a deposit of tubercles in the lungs, physical signs may usually be detected, or there will be some of the suggestive symptoms already considered. If not, then the gums, nares, pharynx, larynx, trachea and heart should be carefully examined for a possible source of the hemorrhage. In conjunction with a slight rise of temperature, loss of weight and cough, hemoptysis is very significant of tuberculosis.

Having thus briefly considered the symptoms attending incipient pulmonary phthisis, let us now take up the physical signs.

Inspection.—It is not necessary to describe the contour of the thorax with its narrow apices, weak musculature, deficient expansion, etc., which so often characterizes the tuberculous diathesis, and therefore I shall pass at once to such evidence of early tuberculosis as may be gained by inspection. One of the earliest ocular signs is lessened expansion of one apex, observed oftentimes in the supraclavicular region. This area may be slightly depressed or retracted, as compared with the other side. In rather more advanced cases, or those in which the tubercular deposits are not so limited, these same changes may be noted in the infraclavicular region as well. Another sign, which by Carcassonne and others is said to be a very early and significant one, is atrophy more or less marked of the scapulothoracic muscles on the affected side. That drooping of the shoulders, which forms a part of the phthisical habitus, may be seen at an early stage, but is generally present when the disease is more advanced.

Palpation does not furnish very reliable or positive information, except as corroborative of that obtained by other means. It is so largely influenced by individual peculiarities. Nevertheless, when in a suspected case there is a marked difference in the pectoral fremitus of the two apices, that apex at which it is distinctly increased is apt to be the seat of tubercular deposits. This is particularly likely to be the case in the suprascapular region, for a reason which is about to be stated.

Percussion is the means generally relied on for the detection of incipient pulmonary tuberculosis, yet it is not always so trustworthy as is auscultation. Dulness at either apex is usually regarded as indicative of the disease in question, and justly so. Still, one should always bear in mind that it is normal for some individuals to show slightly less resonance at the right apex. Therefore, in estimating the importance of trifling dulness at the right summit of the chest one must also consider the presence or absence of the symptoms of constitutional disturbance already spoken of. It is common for physicians to look for impaired resonance below the clavicle, whereas in my experience it is far more frequently found above and in the suprascapular region. This is owing to the fact that, as pointed out by Fowler, deposits of tubercles take place earlier and more frequently at the tip of the lung [illegible] its bc [illegible] d on the posterior aspect of the [illegible] patch of deficient resonance may often be detected behind in the suprascapular fossa, when in front there is no appreciable dulness. It is also in accord with my experience to find diminished resonance early along the vertebral border of the scapula, to uncover which it may be necessary to have the patient fold his arms across the chest in such a manner as to draw the shoulder-blades apart. For the sake of emphasis let me repeat that whenever these changes, however slight, exist at the left apex, it is strongly indicative of tuberculous disease. Finally, an initial alveolitis may sometimes occasion slight hyperresonance of a tympanitic quality. At a later period dulness replaces this tympanitic resonance.

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* Presented in a Symposium on Tuberculosis, to the Section on Hygiene and Sanitary Science, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

Auscultation is a valuable method for the early recognition of pulmonary tuberculosis, yet to be of full service requires great familiarity with normal breath-sounds and slight transitions therefrom. As with regard to percussion, so also with auscultation; one must remember that it is normal to some individuals for the respiratory murmur at the right apex to be less vesicular, that is, bronchovesicular, as compared with the left. Therefore slight modifications on the right side do not have the same significance as when they are found at the left. Slight dulness and bronchovesicular breathing at the right summit of the chest, whether in front or behind, do not of themselves, without some of the more significant symptoms, constitute sufficient evidence on which to base a diagnosis of tuberculosis. Their value would be greatly enhanced if in a circumscribed area the inspiration should be wavy or jerky. Occurring on the left side, where vesicular breath-sounds are the rule, a bronchovesicular quality of the respiration is highly suspicious. When there is distinct bronchial breathing at either apex, it is not normal, but indicates disease, and being associated with unmistakable dulness, usually warrants a diagnosis of tubercles. Râles are not always present in incipient cases, and often when not heard on quiet respiration will be elicited by a deep inspiration or the act of coughing. Under these conditions they are fine crepitant or subcrepitant crackles heard toward or at the end of inspiration. They convey an impression of being moist, and not infrequently are mingled with fine bubbling râles of a somewhat larger size. These adventitious sounds may be very limited in extent or may occupy the entire dull area. Heard in either of the suprascapular fossæ they furnish extremely strong evidence of the disease under consideration. In front, especially along the inner margin of the lung, friction may be mistaken for these râles, yet should any such minute crackling râles be detected, it is generally safe to assume that tuberculosis is responsible for their presence. Incipient tuberculosis is as a rule unilateral, and bronchitis of non-tuberculous nature is bilateral. Moreover, the râles it produces in front are either heard over the course of the larger bronchi and are of large size, and toward the base rather than at the summit. The conjunction of dulness, bronchovesicular or bronchial breathing with these minute râles at one or both of the apices posteriorly will generally justify the conclusion that the lung is tuberculous. When these signs are distinct, doubt of their significance can scarcely be entertained. Moreover, in such pronounced cases there are usually well-marked constitutional symptoms. There is usually sputum, and this will very probably contain bacilli. The difficulty is in incipient cases which furnish no physical signs or such as are so ill defined that even a skilled examiner is not quite certain of their existence. If the temperature, weight, pulse-rate, state of the patient's strength, examination of the sputum, etc., can not help one out, then he would do well to postpone a definite diagnosis until by repeated examinations he can at length arrive at a positive conclusion. Not infrequently an experienced observer may become mentally convinced from the family and personal history, as for instance of previous pleurisy, from the general make-up and appearance of the individual, from the symptoms and from the *tout ensemble* of physical signs, that the patient has tuberculosis, and yet he does not feel warranted in giving expression to his conviction. If it does not seem best to wait for time to clear up the doubt, then recourse may be had to tuberculin, of which I will speak more fully a little later on.

Mensuration of the chest, which should include not only its expansion, but also its relative size as proportioned to height, the determination of the vital capacity by means of the spirometer, the individual's weight as related to his height, these and other accessory circumstances have their diagnostic value, but can not be more than referred to in the limts of this paper.

As regards the employment of the old tuberculin for diagnostic purposes, there is wide diversity of opinion, so wide indeed that statements are flatly contradicted. The opponents declare that it is not only unsafe, but also that it is unreliable, producing a reaction in syphilis and sometimes failing in cases of tuberculosis. The advocates of its use state the opposite just as positively. By those who have employed it extensively it is, however, stated that injurious effects follow too large doses or too frequent repetition of the injections. Therefore, the precautions to be observed are as follows: 1. Use Koch's old tuberculin, not tuberculin R. 2. Let the initial dose be .5 to 1 milligram of the tuberculin; larger doses than this to begin with are sometimes employed, but it is better to err on the side of caution. 3. If the first injection is not followed by the characteristic reaction, double the dose may be injected after an interval of three days. Some advise a shorter interval than this, but as there can be no other objection to waiting so long than the loss of time, it is again better to be over-cautious. 4. Should this dose again not be followed by reaction, double the second dose may be given after another three days. It will seldom happen that a tuberculous individual will not react after receiving as much as 5 milligrams, which may be regarded as a safe third dose. Occasionally, a large-sized and insensitive person will require even as much as 10 milligrams, but this amount should be reached gradually. The characteristic reaction consists of a rise of temperature of 2 degrees F. above the patient's average daily temperature as determined by repeated observations during several days prior to the first injection. There is often also a feeling of malaise and some increase of cough. This reaction generally takes place within twenty-four hours following the injection, but may be delayed to quite twenty-four hours. Carried out with the ordinary precautions stated, I consider this means of diagnosis safe, and have no hesitation in recommending it in cases in which careful physical examination does not enable one to arrive at a conclusion. I should not, however, advise recourse to this diagnostic procedure without having first exhausted other means at hand.

Of late we have been hearing much of the service rendered by the X-ray in the field of diagnosis. Tuberculous infiltration of an apex is revealed by a slight shadow in the affected area. It also affords a means of detecting enlargement of the bronchial glands. This was recently very well shown in the case of a man who was sent to me for diagnosis. The skiagraph also showed slight opacity of the right apex, and thus confirmed what I had discovered by physical examination, yet which was so faint as to leave room for doubt.

It has also been recommended that small doses of potassium iodid, 3 grains three times a day, be employed to clear up doubtful cases. If there is slight alveolar catarrh of one apex producing uncertain physical signs, this potash salt will occasion the development of fine râles in the affected area or so modify the quality of the breath-sounds as to aid in the diagnosis.

Agglutination of the blood, after the Widal method, is too recent and not sufficiently proved to require more than a passing mention. There now remain only a few remarks concerning the diagnosis of advanced pulmonary tuberculosis. When the disease has progressed to this stage, there is generally mixed infection and it assumes the picture of ordinary consumption. As a rule there is no difficulty in arriving at a correct diagnosis in these cases. The symptom-complex alone is sufficient, and yet I would be the last to advise a reliance on symptomatology without examination of the chest. Occasionally, in aged people or persons with extensive chronic bronchial catarrh, it is not always easy to decide whether tuberculosis may not exist in such cases. A correct interpretation is facilitated by bearing in mind the fact that tuberculosis is a unilateral disease as a rule, and that the apex is always more involved than is the base of the lung. Of course, when the disease has progressed to an advanced stage, both lungs are likely to yield signs of the disease; but one can generally determine that the disease is more extensive or more advanced in one than in the other lung, one having been affected primarily, the other secondarily. Although râles of associated bronchitis may exist throughout, they are likely to be more numerous at the bases and of a different character from those of tuberculous apex diseases. These latter are of a crackling kind, small or medium sized, and are found together with dulness on percussion. If the breath-sounds are not so obscured by râles as to be of undeterminable quality, they are bronchovesicular, bronchial or cavernous. Dulness at the base and resonance at the top do not occur in pulmonary tuberculosis, unless very exceptionally a basic affection becomes secondarily tuberculous. When anfractuous cavities have riddled an upper lobe, or tuberculous foci are scattered with comparative healthy intervening tissue, and not a normal opposite lung with which to make comparison, it may not always be easy to determine the exact nature of the percussion note. One must then rely on auscultation to help him out, or he must await the result of treatment, in the hope that by clearing up the bronchitis at the base he may then definitely ascertain the condition of the apex. The detection of bacilli in the sputum will settle the nature of the case; but these are not always present in chronic ulcerated phthisis, and the failure to detect bacilli is no proof that the affection is not tuberculosis.

It may be set down as a general proposition that dulness and bronchovesicular or bronchial breathing and râles at the apex indicate pulmonary tuberculosis. Signs of excavation corroborate the diagnosis.

Limited space forbids further consideration of this subject. I have endeavored as far as possible to present the subject in a general way applicable to the vast majority of cases and not to detail the multiform deviations that may be encountered. Neither have I attempted to discuss the diagnosis of acute cases of the pneumonic type, but merely the form of the affection most often met. Acute tuberculous bronchopneumonia, being an apex disease, is governed, so far as concerns its physical signs, by the same principles that underlie the diagnosis of the chronic varieties. The main difference consists in the greater severity of symptoms and more rapid development of the changes on which the physical phenomena depend.

103 State Street.

NOTIFICATION OF TUBERCULOSIS.*

ARTHUR R. REYNOLDS, M. D.
Commissioner of Health.
CHICAGO.

Notification of the existence of tuberculosis is not demanded by the Department of Health of Chicago.

Notification of a contagious disease to a health authority implies some action on the part of that authority; and no action commensurate with the existence of a disease which, it is estimated, affects one in every sixty of the world's population, is physically possible with the limited resources of our department.

This, however, is not the most important objection to the notification scheme. If a consumptive person is properly instructed how to destroy the contagion in his sputum there is no reason why restriction should be placed on his movements, and in many cases he may be a useful and productive member of society for years. Any public action that would tend to brand him as an outcast or one to be shunned would be a great wrong, if the sufferer took proper care of his expectorations.

Then, again, if we would prosecute those who fail to report tuberculosis, experience proves that it would lead to concealment of cases, and as the disease is generally chronic, the patient may change his residence many times before he dies.

I have never been able to convince myself that tuberculosis should be a notifiable disease. The diagnosis of pulmonary consumption is frequently surrounded with great difficulty, and if we endeavor to enforce notification we would have to be able, promptly and indisputably, to prove the existence of the disease. How great and how absolutely insurmountable this difficulty is, is demonstrated by post-mortem statistics, which show that out of every hundred persons "posted" for other causes of death twenty-two present evidence of healed tuberculosis.

The only object to be gained by notification would be to enable health officials to warn the sufferer of the danger in his sputum and to placard the house to warn off approaching visitors. It is my belief, based on practical experience with other contagious diseases, that these results may be better obtained through the voluntary coöperation of the profession than by attempts to compel the attending physician to report consumptive cases. In the June, 1899, Bulletin of the Department is an article which shows conclusively the advantages of the former over the latter system in such diseases as diphtheria and scarlet fever. The following is the article referred to:

VOLUNTARY VS. COMPULSORY NOTIFICATION OF CONTAGIOUS DISEASES IN CHICAGO.

On resuming charge of the department in the spring of 1897 the commissioner found the plan—inaugurated by him in 1895—of allowing physicians to "assume the responsibility" of enforcing precautionary measures against the spread of contagion in cases of diphtheria and scarlet fever attended by them, had resulted in a material increase in the number of notifications received and of disinfections performed. Its operation had also very largely removed the friction between the department and the medical profession engendered by previous efforts to compel reports of contagious diseases by prosecutions, fines, etc.

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* Presented in a Symposium on Tuberculosis, to the Section on Hygiene and Sanitary Science, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

To what extent the reports under the old system were defective may be inferred from the following figures of cases reported, premises placarded, etc., during the year preceding the innovation: The total notifications of diphtheria cases in 1894 were 1921; and it may be noted that the total diphtheria deaths recorded were 1293. These figures would give the incredible mortality rate of 67.3 per cent. for diphtheria. In 1897 the total diphtheria notifications were 3103 and the recorded diphtheria deaths were 726.

In the latter year, 1897, therefore, while there was a reduction of 44 per cent. in the number of recorded deaths there was an increase of 62 per cent. in the number of notified cases—an improvement of 106 per cent. in the notification of diphtheria cases in proportion to reported deaths as compared with the year 1894, before the adoption of the new plan.

	Diseases.	1897.						Totals six months 1897	1899.						Totals six months 1899.
		Jan.	Feb.	Mar.	Apr.	May.	June.		Jan.	Feb.	Mar.	Apr.	May.	June.	
Number of cases reported....	Diphtheria....	273	219	215	180	198	219	1760	381	307	284	240	266	248	4380
	Scarlet-fever....	87	59	93	63	92	49		306	377	522	507	512	370	
	All other*.....	...	...	6	4	1	2		9	5	11	10	12	13	
Number of premises placarded	Diphtheria.....	189	166	133	142	174	141	1261	225	174	157	129	130	119	3304
	Scarlet fever....	60	45	58	44	70	39		102	210	240	264	255	199	
Number of premises disinfected..........	Diphtheria....	94	60	44	46	45	48	419	185	172	148	121	103	125	2096
	Scarlet-fever....	6	15	12	13	9	11		82	140	185	273	248	254	
	All other.....	...	...	6	4	1	2		9	5	11	10	12	15	
Contagious-disease funerals supervised	Diphtheria.....	42	27	34	32	26	31	223	30	38	38	33	42	45	380
	All other..	6	2	6	8	7	2		10	14	36	29	39	26	

Total area disinfected in the 1897 period, 1,075,581 cubic feet. In the 1899 period, 7,669,641 cubic feet, or more than six times the area disinfected in the six months of 1897.

* "All other" includes cases of tuberculosis, measles, typhoid-fever, smallpox and glanders.

DISEASES TO BE REPORTED: Diphtheria, Measles, Membranous Croup, Puerperal Fever, Scarlet Fever, Smallpox, Typhoid Fever, Whooping Cough. Optional—Tuberculosis.

NOTE.—Where the Attending Physician will undertake to enforce necessary measures against the spread of contagion in a case of any of the above-named diseases, the intention should be indicated by writing in the word assume in Entry No. 8. If this be done the DEPARTMENT will not placard the premises - except in Smallpox. If it is proven that efficient precautions are not being enforced, the premises will be taken charge of, placarded and quarantined by the DEPARTMENT—Tuberculosis excepted

If the Physician does not see fit to assume this responsibility, the word decline should be written in the blank space, when the DEPARTMENT will placard and quarantine as may be necessary for the protection of the neighborhood. Absence of any indication will be construed as declining the responsibility and the DEPARTMENT will take action accordingly.

Where the responsibility is assumed, the Physician must cause neighboring families to be fully warned against the disease and must prohibit members of the infected family from exposing others to the risk of infection

1 Chicago............................ 1 . . Case of..

2 No.. Ward
Avenue, Boulevard, Court, Place, Street

3 Case........................connected with Milk Shop or Depot, Laundry, Shop, other business place.
If not so connected write in blank space the word not.

4 Name of Patient ....

5 Age....................years ....months. Color .... Sex.. ....
(If the Patient had lived outside Chicago within last 30 days, state below where and date of return.)

6 Returned from..................................on the .. ..
Name of place and State. Date of return.

7 ....
In Puerperal Fever—where a Midwife had been in attendance, give her name and address on above line

8 See NOTE above.—I..........................the responsibility of preventing spread of contagion from this case.

....M..D.

Address..

Comparing the first six months of the present year—1899—with the corresponding period of 1897 the increase in notifications is much more marked. In 1897, between January 1 and June 30 inclusive, there were 1747 cases of the notifiable contagious diseases reported. Between January 1 and June 30 inclusive of the present year there were 4320 cases of such diseases reported—an increase of 147 per cent. in notifications.

The following table, compiled from the monthly bulletins, shows the number of contagious-disease cases reported; the number of premises placarded on such reports; the number of contagious-disease premises disinfected by the department; the total area disinfected; and the number of contagious-disease funerals supervised—during the respective periods:

The accompanying table shows an actual increase in the two years of 147 per cent. in the number of cases of the contagious diseases reported: of 73 per cent. in the number of cases of the contagious-disease premises placarded; of 400 per cent. in the number and of 600 per cent. in the area, of such premises disinfected; and of 70 per cent. in the number of contagious-disease funerals supervised by the department.

These results of the "assume-the-responsibility" plan—by which it was sought, primarily, to secure the voluntary, in lieu of the law-compelled, co-operation of the medical profession with the department—are the justification of the experiment and the sufficient warrant for its continuance and development.

The ordinance requirement of uncompensated professional service by physicians, in the report of their contagious-disease cases, had not only been a demonstrated failure, but the tactless efforts to enforce the provision had alienated a most valuable ally of any health department. Now, more than ever before in its history, this department is in touch with the physicians of the city; more fully than ever it receives the information from them necessary to success in its efforts to restrict the spread of the communicable diseases and to protect and promote the public health.

It is not meant by this to imply that perfection has been attained. There are still too many physicians who "assume the responsibility" on the notification report and neglect to discharge the responsibility in practice. Too many visitors are allowed by them in infected rooms and premises; too many children, still in the communicable stage of disease—especially of scarlet fever—are permitted to mingle with others and even to attend school: not enough warning to the neighborhood is given in all cases; disinfection by the family, under their direction, is not always thorough and efficient; and there are many other laches and sanitary sins, both of omission and of commission, on the part of the weaker brethren of the profession.

But these are in a minority steadily becoming smaller. Constant pressure by the department through repeated warning and counsel—the holding up of burial permits—the reference of certificates to the coroner for investigation in aggravated cases—and other corrective, mainly educational, measures are remedying these defects, and the fact remains that an immense improvement has already been effected by this plan in the control of the communicable diseases in Chicago.

On the contagious-disease notification card of the Department provision is made for the report of tuberculosis, but it is "optional," and premises are never placarded or quarantined on such report. Cases of destitute consumptives, whose conditions are a menace to the neighborhood, are taken charge of, admission to such provision as exists—usually to Dunning—is secured, and the premises are disinfected by the Department. The foregoing is a reproduction of the notification card:

After being vacated, either by death or removal, premises that have been occupied by a consumptive are also disinfected by the Department on request of the attending physician; but such requests are not numerous, although increasing from year to year.

In this connection I would urge, as to Chicago, at least, that the attending physician should direct disinfection himself after tuberculosis—as well as after other contagious diseases—in families able to defray the expense, and should exact his fee for this service. This would largely relieve our overworked disinfecting corps and enable it to devote greater efforts to the destitute—those unable to pay—who, as a rule, require more thorough work than the well-to-do.

I do not understand why so many physicians delegate this part of their professional opportunities to public officials. In the nature of things, the attending physician is more valuable than any public official can be. From his frequent visits he is better informed as to the requirements and conditions of his case; he is relied on by the family as to advice and precautions necessary to prevent spread of the contagion to others; and he is either openly or covertly considered responsible for any spread, should it occur. These services are not taken into account in any fee bill; but if their value should come to be generally understood by the public their adequate compensation would naturally follow.

He is the most potent instructor of the public on the danger of infection generally, and of tuberculosis in particular, and I believe strongly that the public needs only to know what is necessary and wise to do to prevent tuberculosis, and all will be done that is useful. The best agency to this end is a wise, vigilant and energetic medical profession, properly taught in the medical colleges, and supported and reinforced by the medical press and the lay press as well.

Notification means policing, quarantines and force through public officials. Education means a reduction of the disease by intelligence and natural methods, and it teaches that the responsibility ultimately rests on the individual, who will be as zealous for the enforcement of preventive measures, when he knows and understands, as will be any public employee.

THE CORRESPONDENT of the *Gazzetta degli Ospedali* states that the average number of persons present at the section meetings of the International Medical Congress was not over seventeen.

NECESSITY OF EXAMINATION OF THE SPUTUM IN THE DIAGNOSIS OF PULMONARY TUBERCULOSIS.*

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DUNNING, ILL.

It has been wisely said that failure to make use of the well-recognized means of clinical investigation leads to more errors in diagnosis than does ignorance. The laity sometimes neglect to take advantage of the wonderful discovery of Jenner, and we wonder at their apathy. What shall we say of the physician who, in so serious a matter as the diagnosis of phthisis, neglects to make use of the simple and beautiful staining methods of Koch? The typical consumptive is a deplorably familiar spectacle. The layman thinks that he can recognize the disease at sight, but let no physician make this mistake.

Of the 1400 patients supposed to be in the advanced stages of pulmonary tuberculosis and sent to the Cook County Hospital for Consumptives from the various hospitals and physicians of Cook county, 120, or 8.5 per cent., have proved, after thorough investigation and prolonged observation, to be non-tuberculous. Some of the mistakes were practically unavoidable and were corrected only on the autopsy table; but in the vast majority of them a negative sputum examination, had it been made, would have led to a more careful physical examination and so revealed the true condition present. Except from a scientific standpoint many of the errors were of small consequence, the patients suffering from conditions even less curable than phthisis. In other cases the faulty diagnosis had deprived the patients of treatment which would have given much relief, if not positive cure.

The difficulty of recognizing incipient phthisis is admitted by all, but are we not too apt to pass lightly over a case presenting marked emaciation, cachexia, cough, hemoptysis, night sweats, with diffuse lung findings, and risk the error of a snap-shot diagnosis? To make a diagnosis of phthisis on the sputum examination alone indicates indolence; to depend on the physical examination without investigating the sputum microscopically shows overconfidence in one's diagnostic ability.

Note the following case:

J. A., Swede, dock laborer, aged 25 years, was admitted May, 1900, having been refused at one of the hospitals in this city because consumptive. Mother died of phthisis. Has been coughing three years, lost 28 pounds in weight; has had pain in chest, occasional night sweats and frequent small hemorrhages; profuse mucopurulent expectoration, loss of appetite, and some diarrhea. Temperature, 98 to 100 F.

Examination showed chest to be symmetrical; no retraction and no bulging; dulness with faint bronchial breathing and coarse râles over entire right lung. Left lung negative except a few scattered râles.

Without examination of the sputum this case might readily have passed for a well-marked tuberculosis of the right lung. However, repeated examinations of the abundant sputum showed the absence of tubercle bacilli, and lead to a more minute examination of the chest. Then it was noted that the dulness of the right lung, while marked throughout, was nearly absolute toward the base, and at times the expiratory sound over the sixth and seventh ribs in the posterior axillary line had an amphoric quality. An exploring needle inserted at this point yielded pus, and rib resection and pneumonotomy, the next day, showed a lung abscess about the size of a small orange situated in the right lower lobe 3 c.m. beneath the pleural surface. The surrounding lung was carnified, and the abscess was draining very imperfectly through a bronchial opening in the upper wall. The incision was enlarged and a drainage tube inserted. The fever, cough and expectoration disappeared very rapidly, but the patient died at the end of a month from general amyloid disease—the result of having been neglected for three years on a mistaken diagnosis of phthisis.

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* Presented in a Symposium on Tuberculosis, to the [illegible] on Hygiene and Sanitary Science, at the [illegible] of the American Medical Association, [illegible] June 5-8, 1900.

As is well known, there is a certain small number of cases of fibroid phthisis so chronic in their nature as to yield no bacilli even after the most thorough and repeated examination of the sputum. These are readily recognized to be tuberculous by their prompt reaction to tuberculin. The presence of tubercle bacilli in the uncontaminated sputum is recognized as absolute proof of the tuberculous nature of the disease present; the absence of the bacilli does not prove the contrary. In my opinion, the converse is true of the tuberculin test. Reaction following the injection does not *absolutely* prove the presence of tuberculosis; but should reaction fail to follow the injection of so large a dose as 10 m. of a 2 per cent. solution, in my experience tuberculosis is excluded. The frequent occurrence of the so-called "false reaction," especially in syphilitics, has been to me confusing.

A list of the 120 cases mistaken for pulmonary tuberculosis is both interesting and profitable. The diagnosis of aneurysm and endocardial lesions was either made or confirmed by Prof. R. H. Babcock; of progressive pernicious anemia, by Prof. W. A. Evans, and the diagnosis of malignant disease was confirmed postmortem.

The cases consisted of the following: Chronic bronchitis, usually with some complication increasing the anemia and prostration, e. g., exposure, senility, syphilis, gastritis, etc., 45; emphysema, with varying degrees of bronchitis, 12; bronchiectasis, 6; endocarditis—mitral 10, aortic 5, tricuspid 1, total 16; lung abscess, 2; empyema, 6; acute pneumonia (resolving), 6; aortic aneurysm, 3; goiter, 2; syphilis (?)—bronchitis 4, pleura 2, larynx 1, gumma of lung 1, total 8; passive congestion and edema of lungs—from cerebral hemorrhage 1, nephritis 2, cirrhosis of liver 2, total 5; malaria, 2; vicarious menstruation following oophorectomy, 2; secondary sarcoma of lung, 1; sarcoma of mediastinal glands, 1; progressive pernicious anemia, 1 subphrenic abscess following gunshot wound, 1; typhoid convalescence, 1.

THE RIGHT OF THE STATE TO PROVIDE HOSPITALS.*

FINLEY SCRUGGS, LL.B.

MEMBER OF THE CHICAGO BAR.

The paramount object of governments is the protection of their citizens in life, limb, property, and the pursuit of happiness; for this alone the individual pays tribute and renders fealty, and since a diseased person can not have the perfect enjoyment of either, it is manifest that not only does the state possess the inherent right to secure and preserve the health of its inhabitants, but that such is, perhaps, the highest duty it owes them.

The power of the commonwealth to promulgate and enforce sanitary regulations for the prevention and spread of disease, and to establish and maintain hospitals and eleemosynary institutions for the treatment and care of its afflicted citizens, both directly and through the medium of its subsidiary governmental agencies, has been uniformly recognized by law-makers and unequivocally sustained by the judiciary. To show that this is considered one of the most important and vital functions of government, it is only necessary to point to the arbitrary power which the people, in their assembled wisdom, have seen fit to vest in public boards of health, who may prevent the going out or the coming in of the individual, confine him in a hospital and subject him by force to medical treatment; regulate, and even forbid, both the importation and exportation of merchandise; and in the most summary manner may condemn and destroy private property. In the exigent discharge of duty they deprive the citizen of his property and restrain his liberty, without invoking the aid of a court of law or granting a trial by jury—a right which no other power has in times of peace. Their authority seems to cease only at the taking of life.

The duty of the state extends to the adoption of all the means known to science for the prevention, cure, and eradication of dangerous diseases, while its power to do so is limited only by the legislative discretion and the ultimate resources of the community. It is not circumscribed by the treatment of diseases designated as contagious or infectious; in this respect the people have vested in the law-making power a discretion whose only limitations are that the provisions must be made for the public good and for public purposes, and so long as the legislature stays within these bounds their discretion is not subject to review by the judicial department. Some of the American states has gone so far as to undertake the care of inebriates, and have established, wholly or partly at public expense, asylums for their treatment.

It is, therefore, safe to assert that the law-making department of the government may say what disease it is for the public good to check by treatment at the expense of the state. It is undoubtedly not limited to the stage of disease; incipient sufferers may be cared for as well as those physically helpless. There is one limitation dependent on the character of the disease; it is this: that while the state may *forcibly* restrain and commit to a hospital a person afflicted by a contagious or infectious disease, the rights guaranteed the individual by our constitution would be infringed by an *involuntary* commitment when the malady is non-infectious.

It must be borne in mind that hospitals established by the state must be under its supervision, and *should* be open to all its citizens on the same terms; although they *may* be maintained for the indigent only. Taxes can not be legally levied for the purpose of donation to benevolent and charitable societies under the supervision of private individuals, and over which public authorities have no control; but it has been held that a municipality—and of course a state—may pay a part of the expense of a charitable institution, to which it has the right to send its citizens.

I have been asked whether it would be legal for a state to appropriate money for a sanatorium located beyond its territorial limits. A judicial determination of this exact question could not be found in the short time which I have had to devote to this subject. However, it is not easy to conceive a legal obstacle to such an action, provided control of the institution is vested in the officers of the commonwealth, or the right to commit its citizens is preserved. Instances are common of appropriations being made for the display of a state's resources at exhibitions held beyond its limits. If it be legal to spend the people's money to erect a temporary building in a distant community for the purpose of exploiting material wealth, it must certainly be so to build a sanatorium in some more salubrious climate in order that a state may afford its citizens the benefit of necessary hygienic surroundings which it can not give them within its own territory.

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* Presented in a Symposium on Tuberculosis, to the Section on Hygiene and Sanitary Science, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

A commonwealth may permit the erection within its boundaries of hospitals or sanatoria for patients coming from other states and suffering from such a disease as tuberculosis. It might afterward conclude that such a hospital was dangerous to the community, had become a nuisance, and should be removed, in which event its action in allowing the location would not estop nor militate against it; for the law is, that whatever is in its inception, or afterward becomes, a public nuisance, endangering the public health, may be abated, and the fact that originally it was permitted or licensed by law does not abridge this remedy.

It is apparent that our organic law affords encouragement to the medical fraternity in the performance of the duty they owe to the public of laying before our law-making power the needs of a community measured by a constantly advancing science, and that whether we are to have public institutions devoted to the stamping out of *all* dangerous diseases, depends in great measure on the insistence with which these needs are presented. You should in nowise lose heart because of partial failures in the past, for some of our legislatures may be credited with having done well in this respect on the same principle that Honora Gallagher did well in choosing a husband: for she might have done worse, and, it was said, that if she might have done worse, she did well for a Gallagher.

Marquette Building.

THE TREATMENT OF PULMONARY TUBERCULOSIS.

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The most common point of infection in tuberculosis is the mucous membrane of the bronchi and of air passages. It is there that it must be attacked. It does not affect the blood, hence its medication could not interfere with the operations of the germ unless such medication were carried far beyond the ability of the patient to sustain. Stomachic medication is open to the same objection.

The chief reliance of the profession has been cod-liver oil and creosote. The former is a comparatively easily assimilated tissue builder, but is not a remedial agent in any sense of the word. It may temporarily upbuild a patient, but it does not cure because it does not eliminate the bacillus. Having for several years condemned the use of creosote in tuberculous cases, I am glad to note its abandonment by the more observing of the profession, but sorry to see them substituting oil of cloves, an agent equally as irritating and as injurious to digestion.

The effect of creosote on the pancreatic gland, following its use in large doses, is usually the most baleful of its consequences. Unquestionably the pancreatic and the gastric secretions are markedly stimulated in the beginning, and just as the stomach does better work in its peculiar function of digestion, so do the intestines more perfectly perform their duty in the assimilation of the food products reaching them, but the improvement in nutrition by the use of creosote is illusory. Not much time elapses before the pancreatic gland conspicuously ceases to perform its function, and intestinal indigestion, with its train of distressing evils, supervenes. Improvement in this latter respect, however, is the main factor on which the administration of creosote depends for benefit in the treatment of tuberculosis, it being claimed that improvement in nutrition is gained by its exhibition and waste so repaired. Churchill, in his remarks on nutrition and favoring the use of hypophosphites, has recorded his objection to the use of those stimulants, in the exciting sense, to the gastric and pancreatic glands—among which is creosote—and observes that while the immediate results were apparently beneficial, the exaltation in their capacity to secrete and excrete their juices was very temporary and surely followed by an exhaustion from which all means failed to rally.

After years of experience in the treatment of this disease and observing carefully hundreds of persons subjected to the creosote treatment, not a case is recalled which was permanently benefited by its use.

Serum therapy deserves better success than it has attained, and earnest investigators have been striving for years to secure a specific for tuberculosis along this line, but up to the present their efforts have been futile. The hope of the medical profession that ultimate success would crown such well-directed labor has caused them to neglect the more practical channel of the application of specific germicides to the seat of the disease.

Residence in certain climates and travel at home and abroad have long been advised by physicians as beneficial. Elaborate and persistent advertising have made many sections popular as health resorts. They depend entirely upon altitude, proximity of pine forests, the absence of fog, dryness of atmosphere or mineral springs as curative agents. Incipient cases are sometimes benefited in this manner, but it rarely happens that this class of persons consider their condition sufficiently serious to justify attention, while those in the more advanced stages are often permanently injured and their death hastened thereby. At the best, relief is only temporary, unless residence in a suitable climate is permanent, and this generally amounts to banishment from home, friends, associations and business, decidedly otherwise than pleasant to contemplate. The most salubrious atmosphere is not germicidal nor antiseptic, and while the proliferation of the germs may be retarded, they are not eradicated, hence a cure does not result.

The most serious objection, however, to regions supposed to possess advantages of a climatic nature is that they have been visited by so many phthisical persons that they must be hotbeds of infection, if there is any truth in the contagiousness of tuberculosis. The author, in the course of his investigations of this subject, has visited every section of the United States reputed to be desirable as a residence for this class of patients. As a result he has had his opinions as to the meager value of climate confirmed and has been shocked by the prevalence of the disease among natives.

The writer believes in th [illegible] and in i [illegible]
etiologic relation to tuberc [illegible] that th

are germicidal agents capable of destroying the germ or rendering it inert. Physicians believe in aseptic conditions, to obtain which they employ antiseptic agents. Knowledge of the value of antiseptics has become so general that should a physician or surgeon treat either disease or injury without due regard to sepsis or neglect to render the surroundings of his patient aseptic he would be held to be guilty of criminal ignorance or indolence.

That this principle should be applied to the treatment of tuberculosis is not only rational, but, founded on a substantial rather than a hypothetical basis, is in strict harmony with therapeutic law.

By the aid of a suitable culture-medium tubercle bacilli germs can be propagated in sufficient quantity for chemical as well as microscopical study. The germ having been isolated, and its specific pathogenic character demonstrated, the function of the microscopist ceases. It remains for the chemist to determine whether among chemical agents there can be found any capable of destroying it.

Prof. Vaughan, by a series of experiments on guinea-pigs and rabbits, found that animals whose secretions were rendered alkaline previous to inoculation were more susceptible to infection than those in the normal or acid condition. Scientists engaged in the propagation of this particular germ agree that the culture media must be rendered mildly alkaline to secure propagation of the bacillus. From these data I conclude that acid media are inimical to the growth of the bacillus tuberculosis and indicate from what class of agents a bacillicide may be secured.

If bacilli be immersed in a solution of unstable carbon compounds of the aromatic series (type C_6H_6) they will be destroyed in 30 seconds. Bacilli-laden sputum immersed in a 1 to 500 solution is rendered inert in 28 hours. Thus we see that different degrees of strength of the bacillicide solution act with different degrees of intensity.

Given the pathogenic germ, the bacillus tuberculosis, and the chemical composition that will destroy it external to the human body, can we make use of these accepted facts and from them devise ways and means by which the bacillicide can be applied to the area of infection in such potency as to prevent the further proliferation of the germ and render inert those already active? This is a practical question, and can only be answered by a practical test. No theory, however plausible, need be accepted.

The organs of respiration will admit but one element safely. That element is air. The epiglottis instinctively closes upon any attempt to introduce a medicament in the form of a powder or liquid. While it is possible to introduce agents by means of a tube, such agents would only reach the larger bronchi. Access to the smaller bronchi and air vesicles by this method is a physical impossibility. It is possible, on the other hand, to impregnate atmospheric air with germicidal and antiseptic agents, and thereby secure their introduction into the remote recesses of the organs of respiration without effort or inconvenience on the part of the patient.

To efficiently accomplish this, different mechanical appliances will be found necessary. The first in importance is a power air pump of large capacity, by which atmospheric air is forced through a series of cylinders containing the germicidal and antiseptic agents. This process thoroughly impregnates the atmospheric air with the properties of the agents through which it passes. From the impregnating cylinders it must be conveyed through an additional series of cylinders for the purpose of precipitating moisture and thence to the apartment of the patient in quantity sufficient to meet the requirements of the case. Secondly, the apartment occupied by the patient must be supplied with a vaporizer sufficient in capacity to thoroughly saturate the air of the apartment day and night with an aromatic germicidal and antiseptic vapor. The latter appliance is supplemental to the first. Third, a small treatment-room must be provided, in which a very dense vapor can be produced from the agents employed, thus subjecting the patient to a more concentrated action than is practicable in the living and sleeping rooms. This is requisite in acute cases, or where some special complication indicates a greater therapeutic latitude than is available in apartments supplied under the two previous methods.

Bacillicide solutions or vapors sufficiently concentrated to destroy the bacillus immediately upon contact would, at the same time, be incompatible with animal life. I have shown, however, that a greatly attenuated solution is equally destructive of germ life, simply requiring a longer time in which to accomplish its purpose.

To destroy pathogenic germs in an infected house, sulphur is burned or, more recently, it has been ascertained that a pound of formalin vaporized in a room containing 1000 cubic feet will exterminate every disease germ in from one to two hours. This vapor does more than destroy the germs in exposed places—it will thoroughly disinfect a library, effecting the destruction of the germs even though sheltered between the leaves of tightly-closed volumes. Thus we learn that antiseptic vapors and solutions are equally inimical to germ life.

Physiologists tell us that the area of respiratory surface in both lungs amounts to about 1400 square feet, that is to say, a few pounds of tissue is delicately subdivided into a fine membrane richly endowed with blood-vessels, all of which is divinely arranged in the small space of the chest cavity. Remembering this anatomic plan, we have, for purposes of treatment, the lung tissue divided into a microscopic membrane.

By keeping the patient constantly breathing a germicidal and antiseptic air, this microscopic membrane is practically suspended in it and the residual air becomes, and is kept, a germicidal and antiseptic air. This being the case, the entire respiratory surface is rendered aseptic and, therefore, proof against further infection by the bacillus from without as well as from within by caseous or other degeneration of the tubercle.

But rendering the respiratory tract aseptic is only prophylactic. While it prevents further infection and proliferation along this most dangerous channel something more is needed to reach the bacillus intrenched in the tissues. This can only be accomplished by systemic saturation.

When we consider that 1400 square feet of membrane is in continuous contact with the germicidal and antiseptic vapor and that this membrane is not stationary, but with every contraction of the chest walls in the respiratory process the vapor is brought into forced contact with the membrane, we can appreciate, from the law of osmosis and of the diffusion of gases, that a certain, definite quantity is absorbed and the blood more certainly and safely impregnated than would be possible by any other means of administration. Once in the circulation, every cell, not only of the lungs but of every other tissue, except the tubercle tissue, is brought under its influence.

By continuous process of treatment, healthy tissue is kept immunized and further proliferation of the bacilli is impossible. Exception is noted of lack of access to the tubercle tissue where, by reason of its being devoid of vascular supply, the bacilli there encysted are safe from any attack by bacillicides in the form of chemical compounds, antiphthisin, tuberculin or others. Their castle is their own, impregnable to enemies from without, but susceptible to attacks by foes from within. In consequence of having no nutritive supply it is short lived, and this retrograde metamorphosis is hastened by caseous degeneration, a process due to the production of ptomains from the bacilli. The early degeneration of the tubercle exposes the heretofore protected bacilli to the action of the germicidal-antiseptic vapor and those not ejected by expectoration are in an atmosphere antagonistic to the causation by them of further infection. If, however, instead of caseous or other degeneration of the tubercle, fibrosis occurs about the tubercular mass there need be no fear of further proliferation or infection, as bacilli have never been known to penetrate fibroid tissue.

If we can saturate all tissue reached by the circulation of the blood as well as the respiratory surface, we have placed the phthisical patient in the best possible condition for recovery, and all will recover except those in whom the degenerative changes are too extensive to be compatible with the remaining vitality.

That this process does saturate all tissues is evidenced by the condition of the urine and perspiration after ten days' to two weeks' exposure of the patient to treatment. The urine after voiding will remain free from decomposition an indefinite time and it and the perspiration will be found to be laden with the agents employed.

If every case of pulmonary tuberculosis could be brought under thorough germicidal and antiseptic treatment at the time of primary infection no further treatment would be necessary, because the bacilli would be destroyed and the disease arrested before the destructive pathologic changes due to the germ and its secondary toxic property had undermined the nutrition and paralyzed the reactive power of the nerve centers.

The primary action of the bacillus, like any other foreign body, is that of an irritant with the usual histologic changes—exudation of fibrin and leucocytes, epithelial proliferation and interalveolar growth—but with the additional pathologic element, sepsis. This is the result of the presence of a specific toxin, denominated by Vaughan, Bregier, Selmi and others, a ptomain, a putrefactive animal alkaloid, a knowledge of which elucidates many of the distressing symptoms of the disease and constitutes an infallible index to its progression or retrogression.

Few cases being recognized at the time of primary infection, a more extended therapy is required than that comprised in a germicide. The important secondary product of this special pathogenic organism, the ptomain, is subordinate in importance only to the germ itself, but is equally amenable to specific medication by the agents before referred to.

I have stated that a solution composed of unstable carbon compounds has been proved to be destructive to the bacillus and that it might be introduced into the circulation by keeping the volatilized fluid in constant contact with the respiratory surface.

It is a sustained fact that toxic substances readily assume non-toxic form when in contact with substances from which they can appropriate new elements or groups of elements for which they have chemical affinities. Carbon compounds too, readily breaking up when subjected to even weak chemical action, possess marked antiseptic properties.

Further, carbon compounds in breaking up do not resolve into their component elements, but divide into groups of elements to form substances differing in make-up and chemical characteristics from the original types. Bearing in mind the unstable nature of the carbon compounds selected, the facility with which they divide to form new compounds with the products of destructive cell metabolism and the non-toxic character of the new compounds formed, an accurate idea of the theory underlying the method by which we may destroy not only the bacillus, but at the same time neutralize or antidote its toxin, the ptomain, may be readily gained.

I desire to direct particular attention to the salutary influence of the stimulating germicidal-antiseptic vapor on the ulceration consequent on the tubercular process. Every physician has noticed the rapid decline of phthisical patients when large quantities of purulent matter are expectorated—an evidence of extensive ulceration—and felt his inability to control the degenerative physical change. A physician who has had experience with the method of treatment outlined by me must have noticed how speedily the sputum changed from a heavy, purulent to a mucopurulent and, finally, to a mucous character. This change is attained through the combined influence of the local and general antiseptic treatment. By continuous application of the vapor to the surface of the ulcer the same results will be secured as by the application of a stimulating antiseptic to an external ulcer—stimulation, granulation and cicatrization. The ulcerative process peculiar to this disease is of the chronic, indolent variety, hence the benefits derived from a stimulating antiseptic.

Certain clinical manifestations follow the administration of the germicidal-antiseptic vapor as suggested. Within from forty-eight to seventy-two hours there will be improvement in the capillary circulation which is attributable to the stimulating effect upon the vasomotor nerves and the strengthening of the inhibitory nerves of the heart, due to the neutralization of the ptomains. Night sweats, which have been cold and enervating, will become warm and exhilarating and instead of the extremities, the head, neck and chest will sweat most freely. Appetite is restored, a relish for food appears and care must be exercised in many cases, to prevent the eating of more food than can be properly digested. This caution is particularly necessary during the initiatory period of treatment when the patient is closely confined and outdoor exercise limited.

In dealing with a disease of such gravity as [illegible] tuberculosis too much reliance must not be [illegible] aid from one direction alone. It is better [illegible] in the general domain of materia medica [illegible] and hygiene for [illegible] may be of value [illegible] juncts necessary [illegible] the case [illegible] should be [illegible] and [illegible] The best hygienic conditions possible [illegible] the patient [illegible] a nutritious [illegible] and tepid [illegible] baths [illegible] moderate [illegible] their [illegible] and [illegible] pro[illegible] a favorable [illegible]

[illegible] a [illegible]

The broader his professional knowledge, the keener his therapeutical skill, the better will be his results in the use of the method of treatment I have advised.

It has been my practice to restrict patients to their apartments during the first week or two, only permitting absence at meal time and a half hour before and after for exercise.

The object of this restriction is to secure the most complete degree of saturation possible at the earliest period. When there is much elevation of temperature little or no vapor should be employed in the living apartments during that portion of the day when it is at its height, but during the intermission the vapor should be vigorously pushed. In acute general tuberculosis especially, the vapor should be developed to its limit or the patient will perish from toxemia which, by the way, always occurs under any other method of treatment, the patient being overwhelmed by the rapid proliferation of the bacillus and the consequent increased production of its toxin.

It is a matter of common observation that most consumptives suffer, sooner or later, from a persistent, debilitating diarrhea, occasionally caused by indigestion, but more frequently by tubercular infection of the intestines. The patient swallows bacilli-laden sputum which passing along the alimentary canal, finds a denuded mucous membrane, a nidus adapted to its propagation, infection takes place and further proliferation follows. No phthisical patient is wholly exempt from this exhausting and impoverishing complication. I regard it as prudent anticipatory therapeutics to administer an antiseptic solution with a view to the immunization of the alimentary canal against this insidious danger. To accomplish this I administer an antiseptic solution in large quantities of water, not less than a quart in twenty-four hours, and preferably more. In addition, it is desirable that the lower bowel be thoroughly flushed twice weekly, sometimes as often as each alternate day, these enemata being also impregnated with the antiseptic solution. The purpose in using large quantities of water is not so much to provide a vehicle for the antiseptic as to obtain the constitutional effect of the aqueous diluent. When the rapid disintegration of tissue, the consequent amount of effete products and the engorged emunctories are considered, an appreciation is formed of the necessity for a full and free solvent to aid in the elimination of accumulated waste by flushing the sewers of the system. As proof of the value of this precaution not a case of diarrhea has developed among the patients treated after this plan.

As an alterative and for the purpose of supplying to the system those constituent elements of the tissues so rapidly wasted by the process of retrograde metamorphosis I use a tablet composed of the bromid of gold and arsenic and the carbonate and phosphate of lime. They have given the best satisfaction of any combination which I have been able to evolve for the purpose.

Cough is usually one of the most annoying features of this disease, but I have had little occasion for a cough sedative. The specific medication allays excessive irritation, liquefies the exudate and facilitates expectoration without effort. There are isolated cases, however, in which a sedative can be used advantageously. This necessity will arise in the inflammatory stage of the disease when there is a dry, irritating cough accompanied by fever. In these cases I have found nothing equal to the coal-tar products combined with ¼ to ⅛ grain of codeia, preferably administered at the height of the pyrexia. The new product, heroin, prolonging respiration and acting as a quietant to bronchial irritability without depressing effects upon the heart or the central nervous system, may also be used, a convenient form being a 1/12 grain tablet. I am favorably inclined to the liberal use of mild counter-irritants over the seat of tubercular infiltration or consolidation in any stage, but particularly in the inflammatory conditions. When the inflammation is persistent I employ small fly blisters, finding them efficient when milder means disappoint.

Some patients will be more or less disturbed for the first few days by headache and dizziness. In such cases a catarrhal condition of the nasal passages will be found. The local stimulating effect of the germicidal-antiseptic vapor on the inflamed nasal or post-nasal membrane produces this disagreeable sequence. For relief, these cavities should be thoroughly sprayed with an oily mixture two or three times daily until the symptoms subside.

The time required for the realization of the specific value of the vapor treatment varies, in different cases, according to condition, diathesis and susceptibility, the minimum period of subjection being six weeks. Scarcely two persons respond to treatment alike. Some advanced stage cases yield more readily and promptly than those in the earlier stages, but those of the incipient and first stage may reasonably be expected to recover more quickly and with a greater degree of certainty. Marked improvement may be experienced within from four to six weeks, and the progress made during that time will form a safe basis of estimate for the probable necessary period of treatment.

TUBERCULOSIS.

ABSTRACTS FROM THE PROCEEDINGS OF THE CONGRESS FOR THE SUPPRESSION OF TUBERCULOSIS, HELD IN BERLIN, MAY, 1899.[*]

DISTRIBUTION AND IMPORTANCE OF TUBERCULOSIS AS A DISEASE OF THE PEOPLE.

DR. KOEHLER, director of the Imperial Health Office, Berlin—The nature of tuberculosis is such that not all of the cases come under observation in the earlier stages. Therefore, there is necessarily some inaccuracy in the statistics thereof; those for the mortality from the diseases in question are somewhat more accurate. Still, there are misleading factors here. Bronchitis, pneumonia and other intercurrent maladies are frequently charged with deaths that are in reality to be attributed to the "white plague." It causes more deaths than the statistics show, which is especially true in infants. In 20 to 33 1/3 per cent. of all people dying of other diseases, evidence of healed or latent tuberculosis is found post-mortem. In Germany the number of adults over 15 years of age, who seek hospitals by reason of tuberculosis each year amounts to 226,000. It is a disease of all races; Mongolians are subject to it: all the Malay and Negro races have it. Statistics from the United States show that the colored population have double as much consumption as the whites. The death-rate of the City of Mexico and Rio de Janeiro is high, while Buenos Ayres has a small mortality. The British army reports show the following facts. In the East Indies the mortality-rate from tuberculosis is somewhat lower among the natives than among the British troops; among the Europeans it was somewhat lower than among the British soldiers in England. In the West Indies, European soldiers showed a lesser mortality than the non-Europeans. The native troops in West Africa suffered extremely from this disease.

In North America the cities with large ocean-harbors show most tuberculosis, and the western cities least. Melbourne, Australia, does not have much, but Cairo, Egypt, shows a large tuberculosis death-rate; that of Algiers is low. Taking the statistics for phthisis only, the countries of Europe rank in ascending order of prevalence as follows: Great Britain, Norway, Belgium, Italy, Holland, Denmark, Ireland, Switzerland, Germany, Sweden, France, Hungary, Austria, and Russia most of all. Among cities the death-rate from tuberculosis increases as we go along the following list: Buenos Ayres, Naples, London, Amsterdam, Hamburg, Berlin, Warsaw, New York, Rio de Janeiro, Paris, Budapest, Vienna, St. Petersburg and Moscow.

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[*] Made by W. A. Evans, M.D., Wm. Becker, M.D., and A. Kreikenbaum.

Altitude is probably not of prime importance. The death-rate in mountainous Norway is only a trifle less than that of the lowlands of North-east Prussia and the Netherlands. Alpine Switzerland shows a greater death-rate than ocean-washed England. Comparisons of various portions of Austria and Prussia are confirmatory of this view. Moisture of the air is of great importance. In the north temperate zone, March and April show the largest tuberculosis death-rate; August and September the least.

The statistics of England and of Berlin show that prior to 20 years of age females are more subject than males; at 20 years the rate in men passes that in women. In Berlin the death-rate of tuberculosis is between the ages of 60 and 70. Berlin shows a maximum between 40 and 60; England and Wales, between 35 and 55. In Belgium the maximum years are betweent 15 and 60; in Italy, 20 and 40.

When we inquire what part of the total death-rate is due to tuberculosis in any given year of age we find another series of figures to consider from this standpoint: In Germany the ages 20 to 30 rank first; in England males 20 to 35, females 15 to 25. In Germany of those who die annually between 15 and 60, 87,600 die of tuberculosis, or 300 for each 100,000 inhabitants—one-third of the total death-rate of these ages. These are the years when the citizen is of value to the commonwealth; the loss is incalculable. The hygienic conditions of the cities tend to the spread of tuberculosis, and certain industries are favorable to its dissemination. In the agricultural regions such as East and West Prussia and Pomerania its death-rate is 150; Rhenish Prussia, which is chiefly industrial, shows 290; agricultural Saxony, 190; Westphalia, 310. Beevor's statistics show that the disease can be limited whereever intelligent effort is made.

The following are suggested as proper methods for treatment and prophylaxis:

1. Asylums for the hopelessly sick.
2. Sanatoria for the remediable cases.
3. Disinfection of streets, buildings, public places and public conveyances.
4. Education of the people.
5. Improvement of the general physical tone and stamina.

HEREDITY, PREDISPOSITION AND IMMUNITY.

PROF. F. LOEFFLER, Greifswald—The belief in the inheritance of tuberculosis was general until Koch's discovery. It is now recognized as a strictly infectious disease. In order that the theory of heredity should exist, it is necessary to prove the possibility of transmission of the bacillus from parent to child. Pasteur demonstrated that the silkworm disease could be transmitted from the "fly" through the ovum to the worm. The heredity of syphilis has been proved, and anthrax has been shown to pass from parent to off-spring. If it is possible with these bacteria, why not with tubercle bacilli? An argument in favor of this as a potent possibility is tuberculosis in infants; in inaccessible localities such as bones and joints; in the prominence of tuberculosis about puberty, the explanation being that circumscribed foci of latent tuberculosis had at that season opened up as centers of more general infection. Against this is the fact of the rarity of congenital tuberculosis, the increase of tuberculosis as the age of the individuals increased. If certain families were decimated by tuberculosis, it was because of the greater danger of contagion in such family circles. Johne was the first to demonstrate congenital tuberculosis positively; this was in a calf. Congenital tuberculosis in man and in animals has been proved beyond a doubt. However, congenital tuberculosis only occurs when the maternal parent was affected with advanced tuberculosis to which she succumbed in a short time after the birth of the offspring. Transmission of tuberculosis from the father has never been demonstrated, even when the disease is general or when bacilli are in the spermatic fluid. Tuberculosis is never transmitted through an infected ovum or an infected spermatozoon, but by means of the placental blood. The number of cases of certain congenital tuberculosis is very small. Hauser concludes that, at the highest, 10 per cent. of the babes of mothers suffering from grave general tuberculosis can be reckoned as tuberculous. This percentage is beyond question too high. Consequently, hereditary or congenital tuberculosis has no practical importance.

Many clinicians are of the opinion that a certain susceptibility is inherited from generation to generation, that a bacillus entering such a body would produce the disease, that in this sense tuberculosis was a hereditary disease, and that such a disposition could be recognized by a flat chest, pale transparent skin, narrowing of the arterial system and a degenerative quality of the tissues. There is no doubt that certain abnormal developments of the body and especially of the thorax do increase the liability to tuberculosis. But the fact of descent from tuberculous parents does not per se involve a special susceptibility to tuberculosis. The offspring of artificially tuberculous animals develop just as vigorously as those of healthy animals if they are protected after birth. Bernstein reports a careful study of six cases showing that the cause of tuberculosis in the children of tuberculous mothers is contact and not inheritance. Statistics from sanatoria show that tuberculosis does not run an especially fatal course in patients some of whose ancestors had died of tuberculosis. Turban's statistics show that of those patients whose ancestors had had tuberculosis 49.6 per cent. were cured; of those whose ancestors had had no tuberculosis 44 per cent. were cured. The Davos statistics point out that of those with tuberculosis on the father's side 42 per cent. were cured, with tuberculosis on the mother's side 42 per cent. were cured, with tuberculosis on both sides 60 per cent. were cured; in patients where both parents were themselves tuberculous 50 per cent. were cured. All these observations tend to show that no specific disposition to tuberculosis exists. Clinicians have tried to classify their patients into highly susceptible, moderately susceptible, and insusceptible; but this is entirely arbitrary. The number of bacilli entering the organism is very important; there is another very important factor, viz., the virulence of the bacilli. Vegales procured tubercle bacilli in pure culture from various sources. These were injected into guinea-pigs and rabbits. The disease induced in the guinea-pigs was very uniform in virulence, while in the rabbits there was a great variation. These experiments show conclusively that there is a difference in virulence of bacilli, and it explains the manifold clinical experiences, showing difference in severity and malignancy of tuberculosis.

We will next consider co-called acquired susceptibility or disposition. In my opinion we can not doubt the possibility that after the devitalization of the tissues consequent on many diseases the tubercle bacillus will find it easier to become established; often we can not decide whether the disease is a recent infection or merely an old infection made manifest. It has been stated that certain conditions render a man immune, e. g., kyphosis, emphysema, heart disease, coal-heaving, etc. Consumption is unknown in the dweller in the desert, but whenever he leaves the desert he becomes very susceptible. The racial immunity formerly claimed has not been proved. We therefore do not know of a natural immunity. The question of artificial immunization must soon be solved, by reason of the number of experimenters engaged and the vast amount of experimental work.

The conclusion, since congenital tuberculosis is of no practical importance; since the inheritance of certain devitalizing abnormalities of constitution can not be avoided; since infectious diseases that tend to lower the resisting powers can not be avoided, there remains only one way to combat the disease, namely, the careful destruction of the bacilli wher[illegible] found, and especially in the excretions. [illegible] ses a[illegible] d in sanatoria, incurable cases sho[illegible] ge [illegible] ospitals in order to separate them from the healthy population. Only when the same attention is given to advanced cases as to the beginning ones, can we limit the mighty devastations by tuberculosis.

PROPHYLAXIS OF TUBERCULOSIS IN HOSPITALS.

DR. VON LEUBE, Wuerzburg—Proper prophylatic measures will prevent spreading of tuberculosis in hospitals. These measures are prophylactic and not difficult of execution. In the first place is, the strict enforcement of the rule that patients must always expectorate into cuspidors where bottoms are covered by water. Another important measure is that patients must hold a bunch of cotton before the mouth when coughing. The body and bed linen must be frequently changed and disinfected, and the floor "wiped up." The clothes of the dead must be sterilized or destroyed. Attendants must wear gauze over the mouth whilst in the wards. The patients are to bathe daily. Physicians and attendants must wash their hands in disinfecting solution after each service. Under such proper precautions tuberculous patients can be kept in general wards with reasonable safety. However, it is advisable to put tuberculous patients in a separate consumption ward. This should be the airiest and best in the hospital. It should be provided with verandahs and there should always be resting pavilions on the grounds.

FOOD STUFFS.

DR. RUDOLPH VIRCHOW, Privy Councilor, Medical Councilor, and Professor in Berlin—Every infection must arrive from without, and we necessarily study the routes by which an infection comes to us. We have arrived at the conclusion that tuberculosis is an infection and foods are one of its routes.

The hog is very frequently tuberculous, and has always been under suspicion. Cattle are much more dangerous; under certain conditions, however, the meat from tuberculous cattle can be safely eaten. Even in human pathology the tendency of tuberculosis is to localize itself and leave the balance of the body unaffected. Accordingly, the present German laws allowing the eating of healthy portions of tuberculous cattle satisfy the demands of science.

Milk is of far greater importance, and, likewise, does not always contain tubercle bacilli when the tuberculosis is in regions away from the udder. Hence, there are cattle which have the disease and yet furnish healthy milk. Many years ago I demonstrated that cows with tuberculous udders gave milk that contained tubercle bacilli; this is of the greatest importance, from a dietetic standpoint. The sterilizing of tuberculous milk has value, but it can not always be relied on. The surest procedure is to kill the cows; all other measures are palliative and will be disappointing. I would not urge this point so strongly were it not for my experience with trichina. You know that I led this fight, whilst the meat vendors and consumers opposed it. However, it has been successful and inspection for trichina is now international. I do not hesitate to say that the more I study this question the more I am convinced that we shall find no help other than by slaughtering the diseased animals. In tuberculin we have a diagnostic agent of great value, but even the restrictions that it makes possible are not enough. Every year I see a larger number of representatives elected who are ready to advocate the slaughter of all diseased animals. If you would assist, much more could be accomplished. Hogs should be better inspected; all the diseased ones are, as should be, carefully removed.

No especial restrictions need be placed on the poultry trade. We must do something to prevent so general an infection of the people. Until lately a certain dogma was considered indisputable, namely the dogma of inherited tuberculosis. I now definitely dispute this inheritance. For a number of years I have held that if one examines the bodies of the still-born no tuberculosis can be found; tuberculosis must come from the outside. What shall we do to protect the children? Such prophylaxis must commend itself to mothers, to hospitals and to orphan asylums.

TUBERCULOSIS AND TRAUMATISM: VIRULENCE OF THE BLOOD IN TUBERCULOSIS.

PROF. LANNELONGUE and **PROF. ACHARD**, Paris—Max Schuller pointed out that contusions of joints would result in joint tuberculosis when a patient had general tuberculosis or if tubercular infection was occurring at some point remote from the joint, and that this was true of infections other than those of tuberculosis. Schuller's work was done in 1880 and is therefore questionable.

For this and other reasons, the authors have undertaken some experimental work along this line. They inoculated animals by various routes: subcutaneously, intraperitoneally, by the trachea, and through the blood. The traumatism was sometimes produced before the inoculation, sometimes at the time of the infection, and at other times after varying intervals. The injuries were in the joints, dislocations, epiphyseal separations and fractures. The results were negative in 30 guinea-pigs. In 35 rabbits, 30 showed no tubercular arthritis, 5 did. These 5 were inoculated with large doses of impure products, sputum and tissue intravenously, and the traumatism was made simultaneously. The rabbit is naturally resistant to human tuberculosis, but nevertheless so many bacilli can be introduced into the blood that some can reach the injured tissue in spite of the rapidity with which the blood-cells take them up. This latter observation was made by Borrel. Another factor is, the animal will live long enough to allow the lesions to develop. When traumatism occurs in the course of a slowly evolving tuberculosis, tubercular arthritis does not occur.

Villimen, in 1868, determined that the blood of a cadaver dead of tuberculosis was infectious. In this case the bacilli probably passed into the blood in the agony of death. The blood of six guinea-pigs dead of tuberculosis caused tuberculosis five times when injected into guinea-pigs. Three guinea-pigs having generalized tuberculosis were quickly killed and their blood injected into healthy pigs; no tuberculosis resulted. In the human subject with tuberculosis the blood is seldom virulent; the bacilli seldom get in the blood and never in large number and an area of traumatism has every chance to escape infection. Fractures in consumptives not only do not become tubercular, but healing is not delayed. This is in sharp contrast to syphilis, in which the blood is virulent.

In consumptives subcutaneous injections of sterile liquids do not produce specific nodules. The contrary is true in such infections as staphylococcus, streptococcus, pneumococcus, and typhoid. Subcutaneous injections of sterile solutions—methylen blue, sugar—to the number of 118, did not give one tubercular lesion; abscess followed twice in injections in typhoid, once in pneumonia and once in erysipelas. With a tuberculous man, something more than trauma, however violent, is necessary for tubercular osteitis. The offending influence must be prolonged.

TUBERCULOSIS OF DOMESTIC ANIMALS AND ITS RELATION TO THE SPREAD OF THE DISEASE IN THE HUMAN SUBJECT.

DR. BOLLINGER, Munich—Tuberculosis of cattle and swine is of the utmost importance: 1, Because it is prevalent, 2, because of the danger to the human subject. Tuberculosis of other domestic animals is, practically speaking, of little importance.

Tuberculosis of cattle is characterized by slow progress, slight inclination to acute generalization, by the frequency of nodules on the serous surfaces, the infrequency of cavity formation in the lungs, the relatively slight importance of mixed infection, and by the slight influence on the general nutrition of the animals. As in human tuberculosis, it is difficult to say positively whence and how the infection came; in the majority of instances it can only be guessed at. The milk is a prime factor as a spreader, and the excretions of diseased lungs are also potent.

Statistics show great variance in the prevalence of tuberculosis according to the age and the sex of the animals. Milk cows of mature years furnish much the largest percentages of tuberculous animals. This point is of cardinal importance to man. Statistics for Bavaria in 1895, 1896, 1897 show as follows: tuberculosis in calves, .03 per cent.; in yearlings, 15 per cent.; in bulls and steers, 3.1 per cent.; in oxen, 4 per cent.; in milk cows, 11 per cent. Statistics also demonstrate that tuberculosis among slaughtered grown animals is on the increase. In Baden from 1888 to 1897 the percentage increased from 1.6 to 3.56; in Leipzig from 1888 to 1897 the percentage increased from 11 to 36.8; in Schwerin, from 1886 to 1893, it increased from 10 to 26; in Chemnitz, from 1896 to 1898, percentage increased from 20.8 to 25.2. In middle Europe there was very little bovine tuberculosis up to the middle of this century; rapid increase has taken place in the last twenty years. If we think of it for a minute there is but little difference between the hygienic conditions of stock kept in stalls and men in prisons. According to some observations made at Munich slaughtering house, cattle from the Alps and from the Hungarian steppes show but little of the disease; the Siedenburger cattle show almost none. The Swiss observations are confirmatory.

To the writer's mind the human tuberculosis plays a subordinate rôle in the etiology of bovine tuberculosis. It is more abundant in hogs than it is in cows of the same age. Swine tuberculosis tends to a general spreading throughout the body. It may affect the lungs, the liver or spleen, with or without involvement of the lungs. It seldom tends to cavity or ulcer formation or to invade the pleura or the peritoneum. Glandular involvement is prominent. In the distribution of the lesions it is very closely akin to the same malady in infants. As there are no ulceration processes in the lungs, hogs are less dangerous to their pen-mates than are cattle with the same disease. Nearly all observers agree that in swine it is mostly due to feeding with the milk of tuberculous cows. The etiological relation between tuberculosis of cows and swine is undebatable. Its prevalence in swine is a safe criterion of the danger to the human race from bovine tuberculosis, especially to those who drink milk. In north Germany in 1895 to 1897 from 3 to 6 per cent. of all hogs slaughtered were tuberculous. In Bavaria for the same years the percentage was 2.2. In the last few years, in north Germany, it has been found that of the hogs that were raised on creamery skim-milk, from 60 to 100 per cent. were tuberculous when slaughtered.

It has been proved that the tubercle bacilli can penetrate the mucosa without antecedent or succeeding changes therein. Often there is involvement of the lymph-glands, of the liver, spleen, kidney or lungs without any demonstrable port of entry. The danger from caring for tuberculous animals is small. Of far greater importance is the possibility of direct intestinal infection through milk and meat. This method of infection surely plays a part in the etiology of human tuberculosis. However, it is much less an etiological factor than is inhalation.

Raw or improperly cooked meat that is either infected, or located near or has touched infected organs, is dangerous. This means of infection certainly occurs more frequently than is generally supposed. Meat from a tuberculous animal, in which infection is local or in the initial stage, is not dangerous if the animal appears in good health and the meat has been properly selected and handled. In well-advanced, generalized tuberculosis the meat is beyond doubt pathogenic unless it has been thoroughly cooked. It can be regarded as certain that milk from cows with tuberculous udders is highly dangerous. According to Bang tuberculosis of the udder is present in 1 per cent. of all tuberculous cows. The milk from infected cows with sound udders has been proved to be infective in 50 per cent. of the cases. Not only in general but also in localized tuberculosis in cows with sound udders the milk may be dangerous. All the products of tuberculous milk are infectious. Such milk is especially dangerous if used in large quantities for a long time without being boiled. The danger is increased if this milk is the exclusive diet. Dairy milk, and especially creamery milk, is as a general proposition safer than the milk of a single cow.

Bang, by feeding calves with tuberculous milk, produced a glandular tuberculosis, especially marked in the pharyngeal and mesenteric glands. Bollinger produced experimental tuberculosis in swine 20 years ago, it being most manifest in the mesenteric glands. In 248 tuberculous children Hiller found the mesenteric glands affected in 45.5 per cent. He concluded from this fact that infectious milk plays an important rôle in infants. Lutz showed that 68 per cent. of the tuberculous children treated at the Munich clinic were from non-tubercular parents. He concludes that ingestion and inhalation were the prime etiological factors. The increase in the prevalence of bovine tuberculosis and that of children certainly have some relation. The method of infection in infants, by reason of surveillance to which they are subjected, is much more possible of accurate observation and conclusion that it is in the adult. Tuberculosis in cattle by reason of its great distribution and latent course is very difficult of solution. Without the co-operation of the stock-owner it will be impossible to eradicate it. He must see that it is to his interest as well as to that of the consumer.

Milk should always be boiled. In creameries, only such cows should be used as do not react to tuberculin. Against the danger from milk products, such as butter and cream, we have no adequate means of protection. When we compare the government's effort to suppress tuberculosis with its efforts in other directions, e. g., against cholera, trichinosis, smallpox, adulteration of milk and other foods, we must conclude that all that has been done is in painful disproportion. The most dangerous milk from an infected udder may be sold without molestation, while the comparatively harmless mixing of milk with water is severely punished. Even if tuberculosis of domestic animals is not the most important cause of consumption in man, it is, by reason of its enormous distribution, great increase and etiological relation, the most important of all animal diseases and the most dangerous to man, and it demands the most serious attention.

RELATION BETWEEN ENVIRONMENT AND THE SPREAD OF *TUBERCULOSIS.*

Dr. Krieger, Privy Councilor, Medical Councilor and Medical Reporter in the Ministry for Alsace-Loraine—The great difficulty in determining etiologic factors in this disease is time that elapses between exposure to infection and detection of the disease. All physicians are agreed that wounds or other diminution of vitality of certain tissues, for example, the lung, aid in infection.

There is an uncertainty as to whether there is such a thing as a general increase in the susceptibility. The consideration of statistics is open to two sets of errors; 1, errors in the statistics; 2, errors in the deductions to be drawn therefrom. Statistics show a predominance of the disease in large cities and manufacturing districts. It is found most prevalent among the poor, though occasional statistics have shown a preponderance among certain wealthy people. Poor nutrition is a minor factor in the etiology of tuberculosis. It is more important in therapeutics and in prognosis. A more important factor in causing a lesser amount of tuberculosis among the rich is their better dwellings, less crowding and the comparative isolation of those diseases.

All observations show that the great factor in the spread of tuberculosis is improper handling of the sputum. This reaches a causative maximum in the homes of the poor, the factory, and the workshop. Comparisons show that the curve of tuberculosis ascends with that of density of habitation. In the Imperial Penitentiary at Ensisheim, in Alsace, no new infection with tuberculosis occurs since cleanliness was observed and strict isolation of tuberculous people has been practiced. Now, there is less tuberculosis in this prison than in the neighboring village of Ensisheim.

Collected from a large territory statistics and individual observation teach us that sunlight and air are prime factors in making habitations healthy. There is less tuberculosis in high altitudes. It is only hypothesis as to whether this is due to the effect of the rarified air on the body, or to the thinness of the population and the absence of factories, or to the ease with which these relatively heavy germs settle in thin air, or to the few bacteria of any kind present. Owing to the tardiness with which demonstrable lesions follow infection, statistics on the effect of seasons have slight value

Some occupations furnish i [illegible]
death-rate among sisters of [illegible]

mercy is very great. The statistics of a certain English asylum on this point are of little value, because the changes in the personnel were too frequent. Statistics as to physicians are likewise of little value, because of the transient exposure in their work. German statistics show frequent tuberculosis in nurses and servants in consumption hospitals. Among the Prussian nurses the death-rate from tuberculosis has fallen from 10 per cent. in 1887-88 to 6.7 in 1893-94. This is due to the better use of preventive measures. The great proof of the danger of nursing is in the legions who have contracted tuberculosis from nursing members of their own families.

Dusty occupations make people prone to the disease under consideration. The statistics of Berlin as to street-cleaners, cabmen, coal-workers and miners show this. Farmers have little of this disease in spite of the fact that in winter grain-cleaning is dusty. Metallic dust is most harmful; mineral and vegetable dust less so. Efforts at the suppression of dust in factories, such as the use of fans, exhausts, and wet grinding have decreased the death-rate from tuberculosis. Locksmiths, stonecutters, shoemakers and carpenters are prone to tuberculosis, because their customary bent attitude prevents proper pulmonary inspiration and expiration. This is also true of tailors.

Beneke determined that the lungs of consumptives are large and their hearts small. The average relation in consumptives was 12 to 1. In patients with cancer 6 to 1.

SERUM DIAGNOSIS OF TUBERCULOSIS.

PROF. S. ARLOING and DR. P. COURMONT, Lyons—We have written on this subject, setting forth most of the following facts, for the Academy of Sciences in 1898, and for the Paris Tuberculosis Congress in 1899.

1. *How to Obtain Homogeneous Cultures of Tubercle Bacillus in Liquid Media*—It is possible to make Koch's bacillus grow in various liquid media, especially glycerinated media in a homogeneous fashion. Such cultures show an even turbidity, with the bacilli isolated. The bacilli have slight mobility. The principle necessity is daily agitation of the culture. A culture which has acquired this new appearance in bouillon will speedily return to its old type if allowed to age or if it is not shaken daily. On the other hand, after a few generations, the new characteristics become fairly well fixed. When such bouillon cultures, with the new type fixed, are planted on glycerin-agar, at the end of a few days we get a creamy smooth layer rather than the wind-row arrangement that is usual. Such cultures lose their staining peculiarities, and are easily decolorized by acids. It is very necessary to grow the cultures exactly right in order to get reliable results.

2. *Obtaining Proper Cultures*—The best medium is beef or veal bouillon containing 1 to 2 per cent. peptone and 6 per cent. glycerin. The cultures must be agitated at least once a day. Cylindrical flasks with flat bottoms are preferable. Such bouillon is inoculated with a definite quantity of a vigorous culture one month old. The tests are made with bouillon cultures eight to twelve days old.

3. *Technique.*—Certain precautions, not required for typhoid tests, are necessary here. The "loop" must be taken from the upper part of the culture. Serum is preferable to the entire blood; uncolored serum is better than that containing hemoglobin, and fresh serum should be used rather than that which is old. The serum is obtained by allowing the clot to retract, or by centrifuging. We mix three lots of serum in the following proportions: One drop of serum to five of culture; one to ten; and one to twenty. The mixture is drawn into tubes of small lumen, inclined at an angle of 45 degrees, and allowed to stand from two to twenty-four hours. Examination is made with the naked eye and with the microscope. To the naked eye the mixture is clear; the bacilli are along the glass, mostly at the bottom. Examine at the end of two hours and again at the end of twenty-four. Have an unmixed culture similarly arranged for purposes of comparison. Now, carefully take a drop of the serum mixture from near the zone of precipitated culture and make a microscopic preparation. Compare with a slide of an untreated culture. It is advisable to keep some serum from a tubercular pleurisy or peritonitis always on hand to act as a check on your tests.

4. *Artificial Production of Agglutinating Power*—The authors produced this agglutinating power in serum of dogs, goats and guinea-pigs by inoculating them with mild cultures of tubercle bacilli. Virulent cultures producing exudative forms of tuberculosis did not give this modification of the blood-serum.

5. *Clinical Application*—All of the precautions enumerated above are absolutely necessary. Our studies have been going on since May, 1898, and they extend over two hundred patients who were tuberculous, otherwise diseased, and healthy.

The agglutinating power of blood-serum was tried on 186 patients. Of these, 128 gave a positive reaction, 69 per cent.; 58 gave no reaction, 31 per cent.; of these 128, 96 were proved to have tuberculosis by physical examination, sputum examination, or autopsy, 75 per cent; and 32 gave no evidence of tuberculosis other than this agglutination, 25 per cent. Of the 58 cases giving no reaction, 10 were otherwise proved tuberculous, 17 per cent., and 48 gave no sign of tuberculosis, 83 per cent. Of the 106 certainly tuberculous 91 per cent. reacted; 9 per cent. gave no reaction. The 96 reacting cases showed all degrees of the disease. Of the 10 not reacting 7 were most advanced cases. The milder cases react best. Of the 60 clinically non-tuberculous patients, but having various other diseases, 26, or 43 per cent., reacted; 34, or 57 per cent., did not react. Of these 26 reacting cases, autopsies were held on 20. Of these, 20, 9 had latent or cured tuberculosis, 45 per cent. The reaction in clinically non-tuberculous cases probably indicates latent tuberculosis.

Comparison is made with the statistics of Beck as to the reliability of tuberculin as a diagnostic agent. Beck found that 60.8 per cent. of all sick people, tuberculous and otherwise, responded to tuberculin. Our similar serum trial showed that 69 per cent. responded. Beck examined 371 clinically tuberculous patients: 100 per cent. responded to tuberculin. Of our clinically tuberculous cases 91 per cent. responded to the serum-test. Beck examined 2137 clinically non-tuberculous sick people; 1194, or 54 per cent., responded to tuberculin. Among our similar cases 43 per cent. responded to serum.

Differences in the patients examined are responsible for the differences in the figures; the results are, in the main, strongly corroborative. The advantages of the serum method are: 1, its harmlessness; 2, facility and rapidity; 3, delicacy. Its disadvantage is the number of necessary precautions.

6. *Agglutinating Power of Serums from Tubercular Cavities, e. g., Serum from Tuberculous Pleurisy.*—The results given here are even more accurate than in the use of blood-serum.

General Conclusions.—The use of homogeneous bouillon cultures permits us to use serum diagnosis in tuberculosis. The use of proper technique is imperative. In men the agglutinating doses are from 1 to 5 to 1 to 20. The results of 186 examinations show the test to be valuable. Its results run very nearly parallel with those given by tuberculin. It is especially valuable in cases of latent tuberculosis. It is most valuable in diagnosis of early tuberculosis and least valuable in late, extensive or exudative tuberculosis.

MIXED INFECTION IN TUBERCULOSIS.

R. PFEIFFER, Berlin—The clinical course and the anatomical and histological findings in tuberculosis are irreconcilable with the effects of the tubercle bacillus. Hence, Koch looked for other organisms in tuberculosis besides the tubercle bacillus. He found micrococcus tetragenus, bacillus pyocyaneus and various cocci. He wrote that these organisms were probably benign in lung cavities, or else that they took part in the destruction of tubercle bacilli. The term "mixed infection" was first used by Brieger and Ehrlich in 1884. The term should only be used when two distinct organisms infect a body entirely independently of each other. The infection, by other germs, of lungs already tubercular should be spoken of as secondary infection, as suggested by Petruschky. However, the terms are habitually used synonymously, and I do the same here.

The following have done valuable work on this subject: Babes, Pausini, Cornet, Petruschky, Spengler, Ortner, Ehret and Schuetz. In 1890 Pausini isolated 24 varieties of organisms in tubercular sputum; his technique was faulty. Koch's method is the proper one: Wash the sputum in many changes of sterile water until nothing remains but the central "core," which, beyond question, came from the tubercular area.

In this central "core" streptococcus is often found, sometimes alone. Less often staphylococcus, diplococcus lanceolatus, bacillus pyocyaneus, Friedlaender's bacillus and micrococcus tetragenus are found. During influenza epidemics enormous numbers of influenza bacilli are found. Ehret and Schuetz have lately added pseudo-diphtheria and true diphtheria bacilli to this list. Streptococci usually predominate. The most frequent combinations are streptococci and staphylococci, streptococci and bacillus pyocyaneus, streptococci and diphtheria bacilli, and streptococci and diplococcus lanceolatus. The organisms causing the secondary infections are found in the tissue as well as in the sputum. Cornet called attention to the fact that in the same lung one cavity might show nothing but tubercle bacilli, another a mixed infection of one kind, and another a mixed infection of a different kind. Ortner studied the tissues in 61 cases of pulmonary phthisis. He studied the bronchopneumonic areas surrounding the clearly tubercular areas. In 28 of 42 cases he found a modified streptococcus present, this he called micrococcus pneumoniæ. Cornet, Petruschky and Spengler verified this work and showed that this coccus was nothing but streptococcus. Micrococcus tetragenus was also found in the tissue. Pfeiffer showed that the lobulocellular infiltrations surrounding the tubercular areas, and found so typically in influenza epidemics, were due to influenza bacillus. Schuetz showed the diphtheria bacillus in the tissue.

Petruschky found that streptococci present in the exudative areas of tubercular lungs had lost most of their pathogenic power for animals. But these slightly virulent cocci might be very pathogenic in lungs of lowered vitality and in cavities of varying hydrostatic pressure. Again, the usually slow course of phthisis shows that none of the organisms can be of great virulence.

A. Fraenkel described a caseous bronchopneumonia due to tubercle bacilli alone. This does not alter the importance of mixed infection very much. Baemuler described certain cases of tuberculosis that progressed slowly up to a certain point; then spread rapidly, just subsequent to hemorrhage. He thought this rapid spread due to inspiration of blood laden with tubercle bacilli and other organisms.

How do secondary bacteria get into the lungs? If Druick was right when he said that various pathogenic bacteria are always present everywhere in normal lungs, then the question is easy. Besser, Klipstein, Hildebrandt and Mueller proved that normal lung tissue and the mucous lining of the smaller bronchioles are always sterile. Even then the contents of the upper air-passages and the surrounding atmosphere are dangerous.

We agree with Struempell that clinically the most important symptom of mixed infection is fever. Fever is always a bad indication, its absence is a good one. Bacillus tuberculosis alone can produce fever; as a rule it does not. The characteristic fever, chill and sweat of phthisis is due to secondary infection. Petruschky says of streptococcus infection: "Suspicion of secondary infection is proper in remittents, intermittents, and in those cases which are subnormal in the morning and reach 38 C.—100.4 F.—in the afternoon."

As a rule the blood of tubercular patients is sterile during life. Petruschky has shown that streptococci can be found in 50 per cent. of the cases of phthisis if the heart's blood be examined post-mortem, but this is due to infection during the article of death.

Examination of the sputum in unmixed infections shows a small quantity and a few tubercle bacilli. Examination of the sputum in mixed infections shows much sputum, many secondary bacteria and sometimes no tubercle bacilli. Petruschky and Spengler sometimes found streptococci in the sputum of afebrile cases. This was exceptional. Here the organisms were in the cavities, not in the tissues. The importance of secondary infections has been determined in tuberculosis of the bones, the joints, the larnyx, and the skin. We can be certain that the prognosis is made worse by secondary infection. The physician must aim to avoid such complication.

TREATMENT OF TUBERCULOSIS WITH SERUMS.

Dr. E. A. de Schweinitz, Washington, D. C.—In 1894 I published a series of experiments in which guinea-pigs were immunized against tuberculosis by injecting them with cultures of tubercle bacilli that had been weakened by years of growth on acid media. This work was verified by Trudeau. With this view I have tried to get a serum from horses, mules, etc. I use an extract of the bacilli that float on the surface of cultures. This is injected in horses for several months. Now the serum is drawn. This serum was tried on guinea-pigs previously inoculated with virulent tubercle bacilli. The guinea-pigs recovered.

Dr. Stubbert, of the Loomis Sanitarium, at Liberty, New York, used my serum for 1½ years, during which time 90 patients were treated with the following results: 19 per cent. were totally cured; 7 per cent. considerably improved; 57 per cent. somewhat improved; 17 per cent. not improved. The improved numbered 75, unchanged 8, and 7 were aggravated. Of the 90 patients 42 were in the early stage, 44 little advanced, and 4 were advanced cases.

Expectoration was diminished in 774, and remained unchanged in 16; cough diminished in 72, and was unchanged in 18; appetite increased in 74, and was unchanged in 16; weight increased in 69, was unchanged in 14, and decreased in 7.

Temperature decreased in 44 and was unchanged in 46; tubercle bacilli were always absent in 11, disappeared in 11, diminished in 32, and remained unchanged in 36.

From these results and my own I am justified in claiming that tuberculosis can be markedly improved and frequently cured with my serum. The pathogenesis of tubercle bacilli may be in some way related to the large amount of fat that they contain. I take cognizance of this in preparing this serum. The production of a tuberculosis serum should be exclusively in the hands of the state for a number of years.

I suggest an international committee on treatment of tuberculosis whose business it would be, to investigate remedial efforts against tuberculosis and let the world know the results of such investigations.

Homicide by Carbolic Acid.

A case of some interest was recently before a coroner's and magistrate's court in Toronto, which brought forward the question of homicide by carbolic acid. A citizen was dead on the arrival of a physician who had been summoned hastily. Although four physicians saw the patient in rapid succession, none of them detected the odor of carbolic acid in the room or about the person of deceased. The coroner was notified, and on a post-mortem examination, carbolic acid was found to be the cause of death. Suspicion rested on his supposed wife and a young man who was boarding with them, and their arrest followed, with a charge of murder. No bottle was found which had contained carbolic acid, in the room, and it could not be ascertained where the deceased had got the drug, nor if either of the accused had purchased it. The crown became possessed of the idea that the victim had been administered carbolic acid for a length of time, and the officers of the crown endeavored to prove that such could be possible and that carbolic acid could be administered in some other substance which would disguise its peculiar odor and taste. After dragging along for six weeks, the coroner's court brought in a verdict that the deceased had come to his death by carbolic acid, by other than his own hand. The case was then brought into the police magistrate's court, where it was at once summarily dismissed, and the prisoners liberated. The case, however, brings up two interesting features: Can there be such a thing as poisoning by carbolic acid administered internally, chronic in form, similar to chronic arsenical poinoning for example; and could carbolic acid be given any one in such a form, the odor and taste so disguised, that the person to whom it was given would not know what he was taking?

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TUBERCULOSIS.

The present issue of The Journal is devoted mainly to the subject of pulmonary tuberculosis, the one disease that is just now foremost among subjects of medical discussion. Probably nothing has stirred up the medical profession at any time during the past century as has Koch's discovery of the tubercle bacillus. The disease we have had always with us and the suspicion of its communicability was not new, but this scientific confirmation of the facts and the practical deductions therefrom have amply warranted enthusiasm. We know now that tuberculosis, which is responsible for so large a proportion of human mortality, is an infectious disorder, and what is still more valuable knowledge, that it can be recognized in its early stages while still curable and that it is to a certain extent preventable. It is natural that, under these circumstances, enthusiasm should be aroused and sometimes extravagance be indulged in even by medical men in their estimation of the dangers of infection. Very little, however, if any, of this tendency will be met with in the papers in this issue.

There are yet many points to be cleared up in regard to tuberculosis, and it may be that some of our present views as to its mode of infection may have to be modified in some respects, but it can safely be said that the papers in this issue fairly represent the present consensus of opinion in regard to it. The more hopeful views of the disease are gaining ground and it is possible that in the future more stress will be laid on constitutional and environmental and less on the bacteriologic factors in its etiology. If we are to accept the statements and views of some modern writers as to the prevalence of cured and latent or quiescent phthisis we must admit that the bacillus tuberculosis is not as dangerous an organism as it has come to be believed by the public, and our efforts directed to strengthen resistance must be generally considered as of more importance than those aimed at merely restricting the infection. One thing seems reasonably certain; pulmonary consumption is, at least locally, on the decrease. This is shown by Dr. Hinsdale's paper in this number, in which he reports a decrease of the percentage of deaths from pulmonary tuberculosis to all deaths in the city of Philadelphia from 14 to 10 per cent. in fifteen years. Other cities, such as Berlin, where statistics are reliable, show a similar decrease, and in spite of possible criticisms, it must be admitted that the registrar-general's statistics for Great Britain give similar testimony. It should be remembered in this connection that with a decrease in the general death-rate there might very easily be a proportionate increase in that from consumption, with an actual decrease. But both the actual and the relative mortality are reduced.

There is much yet to do before consumption ceases to be the "great white plague," the one pre-eminent scourge, but the outlook is now more hopeful than ever before. The public has already received rudimentary education on the subject—a little one-sided perhaps in some regards, but nevertheless one on which to build a more complete and perfect body of information. The occasional, somewhat too hysterical manifestations of some of the antituberculosis agitation are only a temporary phase of the progress toward the desired end—the restriction if not the eradication of the disease among men.

HOSPITAL TREATMENT OF TUBERCULOSIS.

The number of hospitals for tuberculosis is increasing rapidly, not only abroad but in this country. In places where special hospitals have not been possible, wards or wings of general hospitals have been set aside for tuberculous patients. While a special hospital is certainly best, it is unquestionably true, that special wards are better than general mixing of patients. It seems to be true that infection with tuberculosis is much more apt to occur where contact is continuous than where it is casual.

In order to get the best, or even satisfactory results from hospitals, it is necessary to specialize. There should be hospitals for advanced cases of tuberculosis, and others for the cases that promise more from treatment. The question arises: Why should we erect hospitals for the hopelessly sick? The good that they do can not be shown by statistics. The patients usually come from crowded homes and insanitary surroundings. They often come from bedrooms occupied by several people. They pass the day-hours in yards or work places where there is little sunshine and much moisture. Such a patient at home is a constant menace to his family and source of some danger to others. This is the great good that these hospitals accomplish. There are lesser benefits. Many people remain in a hospital a short time and return to their friends. If they remain even a short time they are taught the care of the sputum, the necessity for sunlight and general hygiene, and much good for the community has been accomplished. The cures in a large hospital will never be very much of a factor. Even when cured, the patients will seldom get on such a physical plane as will make them useful to their families or to society.

The second class of hospitals for tuberculosis is the sanatorium for the incipient-stage group. Many hospitals concentrate their efforts as much as possible on those cases of tuberculosis that can be cured and restored to usefulness. Several of the articles in this symposium and the accumulated experiences of hospitals in many countries show that from 25 to 60 per cent. of people with tuberculosis who are properly treated are cured. When cured, they are strong enough to take their places among the bread-winners or the home-makers.

While the climate of the West and of the mountain districts of the East is especially beneficial, the possibilities of sanatoria are not limited to those districts. Sanatoria in those regions that are supposed to be unfavorable for the cure of tuberculosis show an excellent percentage of recoveries. Porches, verandas, windshields, solariums, etc., can in a great measure replace the conditions found in more favored locations. Some of these hospitals have been built by states or municipalities, some by private charity, and others as business propositions. Each source is legitimate and proper. The duty of the state to cure where it can is no less urgent than it is to care for those that are helpless. The article by Mr. Scruggs covers the point of right, though it is clear that a state has the right to do whatever is its duty.

Unquestionably hospitals will be built on the lines advocated by Dr. Oliver, namely, small hospitals for small communities—serving as sanitary homes for those having tuberculosis to an incurable degree, and being havens of hope for others.

HOME TREATMENT OF TUBERCULOSIS.

The profession is to be congratulated on the progress made in the study of tuberculosis during the last few years. Through better knowledge of the subject, more people recover from the disease, an earlier diagnosis is made in many cases, and a more rational care of the patients has come about. The modern sanatorium management too, we may well believe, offers the best chances for recovery and is destined to still further reduce the general mortality.

But most patients are unable to pay for institution treatment and the state can never hope to provide sanatoria for half of the indigent cases, even if they were all willing to go to them, which is not the case. There will always be a large number of people who will sicken with consumption and recover or die from it at home. These must depend, in the main, on the assistance of their family physicians. Are these physicians doing as well as they can for such cases? Are such cases having as good a chance for their lives as their circumstances and surroundings make possible? We think it is only fair to answer each of these questions in the negative. Physicians are too often careless as to details of hygienic management, on which the life or death of the patient depends. Some seem never to have learned that benefit can come of such measures. Most such patients have no carefully ordered hygienic management, except that which they devise themselves. They are given medicines, usually tonics, such as strychnin, iron, quinin, cod-liver oil and whiskey, all of which in their way are beneficial. They are admonished to eat and to cut down or stop their work, both of which they do in a most empirical and unscientific way. Every patient ought to receive from his physician a carefully prepared schedule of regimen, written out minutely if need be, and to be observed continuously. It should cover all details as to the number of hours daily to rest, and how to do it; the methods of rest out of doors; the kind of room and bed to sleep in; the ventilation for both night and day; the character and amount of exercise; the way to be clothed; the food for each meal, and the number of meals each day —more than three—and the hours they are to be eaten; the care of the stomach and bowels; and the management of amusement for mental tranquillity.

How many cases in a hundred ever have such attention? Yet the life of many a consumptive depends on avoiding some indiscretion which such rigid rules might prevent, and it is attention to just such details as these that makes the remarkable records of the sanatoria. Is it impossible to give the average case some fair approach to such efficient services at home? We prefer not to believe it. The people are ignorant and not to blame if they fail. The physician knows the value of these measures and is responsible. He ought not to evade his responsibility. The home treatment of pulmonary tuberculosis is, we believe, not half as effective as it might be made, and ought to be.

COCAINIZATION OF THE SPINAL CORD.

Although but little more than a year has elapsed since Bier presented his first article on cocainization of the spinal cord as a means of inducing anesthesia for surgical purposes, he has also deemed it necessary to warn against the too free use of the drug in this manner.[1]

He considers the dose of [illegible] cgs. to 5 cgs. which has been used, as dangerous and says the dose should [illegible] exceed 15 mgs. He holds the problem [illegible] cocain in the manner which he first described [illegible] which he predicts [illegible] of rendering [illegible] ant after-effects [illegible] He has been [illegible] along these lines [illegible] cess, but [illegible] these experiments [illegible] cluded [illegible]

[illegible]

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[1] [illegible]

a lumbar puncture, as the solution must not be injected until clear cerebrospinal fluid is seen to escape from the needle. While lumbar puncture is ordinarily a simple and safe procedure, it is not always so, as Gumprecht[2] reports 17 cases of sudden death following simple lumbar puncture for diagnostic purposes. The toxic properties of cocain, when injected elsewhere in the body, are well known, and Bergmann[3] reports a case of the most acute poisoning following the injection of 3 cgs. into the calf of the leg in a man in whom the day before he had injected 5 cgs. into the gluteal region without perceptible symptoms. As a rule, intoxication symptoms follow the injection of cocain into the subarachnoid space. While these symptoms are usually mild and evanescent, they are not always so. Racoviceanu Pitesti[4] reports 125 cases with the following results: In 4 cases anesthesia failed and he was obliged to resort to chloroform; in 2 cases anesthesia ceased before the operation was finished; of the first 100 cases, 17 showed no disturbance; 80 had light intoxication symptoms lasting from twelve hours to five days, while in 3 the intoxication was so severe that life was in great danger. He considers the presence of kidney disease a contraindication and that patients with heart disease and arteriosclerosis require close watching. He concluded that the methods can not take the place of chloroform or ether, on account of its many inconveniences and the inconstancy of the solution.

Tuffier[5] in 125 cases had 5 deaths, 4 of which could not be referred to the anesthetic; the fifth, however, died with symptoms of asphyxia. The autopsy showed mitral insufficiency and two fresh lung emboli. He says the method should not be used in children nor in the hysterical.

It is apparent from these facts that the method is not free from danger, and should be used only with the greatest caution and attention to detail. It would also seem advisable that the indications and contraindications should be more definitely determined and the problems pointed out by Bier be solved by those in position to do so before the method be generally adopted by the profession.

THE HALL OF FAME.

The Hall of Fame, which is to be the American Westminster Abbey, has received its first score and a half of inmates by the suffrages of the 100 judges selected from among college presidents and jurists. The results thus far are interesting in several points of view. There is hardly anyone whose opinion is worth anything who will not, in view of the names selected from and those selected, find something to criticise. As physicians we have a grievance in that, while several eminent men had been suggested, not one of our profession was deemed worthy of a place in this Walhalla. The statement is made on good authority that this is due to the light vote cast for any physician by the chief justices on the jury, and the fact is a commentary on the plan of giving such matters to the decision of members of an elective judiciary. The vote is, we understand, to be published in full detail, and its study will undoubtedly afford much food for reflection.

DILATATION OF STOMACH DUE TO COMPRESSION OF DUODENO-JEJUNAL JUNCTION BY MESENTERIC ARTERY, VEIN AND NERVE.

A writer in the *American Practitioner and News* for August, 1900, calls attention to a cause of dilatation of the stomach in visceral ptosis by pressure on the duodenum by the superior mesenteric artery, vein and nerve. He claims to have studied the subject for several years and the paper is illustrated with diagrams and sketches intended to make clear the mechanism. As he found no records in the literature showing that dilatation of the stomach may be caused in this way, he considers his observations as original. There is no occasion to doubt the author's claim that his observations are original in so far as they were made without previous knowledge of similar observations being recorded in medical literature, but his investigations into the literature must have been exceedingly superficial and limited. The subject is dealt with in an editorial abstract in THE JOURNAL xxxiii, p. 487, based on an article by P. A. Albrecht, which appeared in *Virchow's Archiv*, clvi. In this article Albrecht describes two striking and fatal instances of this form of obstruction and refers to similar observations by Glenard, Kundrat and Schnitzler.

DISEMBODIED PRACTITIONERS.

In the State of Massachusetts a medical-practice act, rigid in other respects, exempts from its provisions clairvoyants, mental healers, magnetic healers and those that practice the curing of diseases by the use of hypnotism. In other words, the greater the humbug the greater is the privilege, while any pretense to accurate knowledge must be rigorously investigated. It would seem that the lawmakers reasoned that since a little knowledge was a dangerous thing, absolute ignorance must be safe, a fallacy the more readily adopted since it is a natural tendency of human imbecility to love to be humbugged, as that eminent student of human nature, P. T. Barnum, expressed it. Like the silversmiths of Ephesus, the Massachusetts legislators may also have had self-interest in mind, for does not the great goddess of "Christian Science" reside among them, at least part of the time? In a recent lawsuit it was held that bills for medical treatment by spirits could be legally collected by the individuals through whom these disembodied practitioners acted. No question appears to have been asked as to the qualifications of these ghosts, though the plaintiff only claimed to act as their instrument. Whether such temporary inspiration can properly be accepted under the law, as it appears to have been in this case, may be open to question; at any rate, there is a chance for an interesting legal quibble. If a man is not really himself, or claims not to be, when under such influence, has he the right to practice in the name of another whether that other be living or dead?

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[2] Deutsche Med. Woch., 1900, xxvi, S. 386.
[3] Muench. Med. Woch., 1900, xlvii, S. 392.
[4] Berl. Klin. Woch., 1900, xxxiii, S. 741.
[5] Ibid.

Leaving such matters aside, however, it seems a pity that the laws in the region that popularly passes as the center of culture of this continent should be restrictive only on those that have some pretense to qualifications and should offer such premiums to ignorance and superstition.

ALLEGED INSANITY IN THE ARMY ABROAD.

According to some of the sensational journals of the day, it would appear that the American army serving in the Orient was being decimated—if that is the word—by mental disorders. Thrilling statements as to the effects of climate and homesickness have been sent abroad and it would seem quite possible that they have caused serious distress to friends and some concern to well-wishers of our soldiers generally. According to a Washington dispatch, this anxiety is altogether needless. From reports received by the surgeon-general of the army, there have been only 84 cases of insanity last year among the troops in the Philippines, though from newspaper accounts there ought to have been ten times as many. There were, it is said, only 188 cases altogether in the whole army of over 100,000 men, which gives fully as favorable a percentage as we have in any class of our population. Moreover, half of these cases were only temporary results of nostalgia which were quickly recovered from, the most then returning to duty. A specially favorable fact is that the number of cases attributed to intemperance was very small; this has a bearing also on another frequently repeated scandal. These facts are given out in advance of Surgeon-General Sternberg's report, which, it is said, discusses the subject somewhat fully. We see no reason to doubt their reliability.

THE REVIEWING OF BOOKS.

A majority of the book reviews nowadays are favorable. This has led to the statement that literary magazines are "publishers' organs." To this charge the *Chicago Sunday Tribune* for September 30 makes answer. It admits the truth of the statement in the opening line. "The contrast with the slashing of the *Edinburgh Review* is indeed marked, but it by no means follows that the book reviews of the present time are any more a failure than those which flayed Shelley or drove Keats to an early grave." The conditions in the book market are such that but a fraction of the books published can be reviewed, and hence the tendency to select for review chiefly the books worthy of praise, the inferior productions simply being ignored. And then personal animosity and political prejudice no longer play any such part in the reviewing of books as they did a century ago—and this is certainly right. For these two reasons the *Tribune* considers a return to the older methods of "slashing criticism" as undesirable. The conditions in medical literature are not unlike those in the literary world at large. The great number of medical books now issued practically preclude critical reviews of all. Time and space are too valuable to be wasted in giving detailed and critical examinations of all the publications placed on the editor's table; the majority of which are of an elementary and ephemeral nature, not altogether worthless, perhaps, but surely not of such character as to produce any impression on the development of medical science. Many medical periodicals have adopted the policy of acknowledging all books received, selecting only the more important for review. It is natural that under these circumstances the majority of reviews are of a commendable tone. Yet these journals are not, therefore, "publishers'" or "house organs." Let the very fact that a book is chosen for review mark it as one of considerable importance! The standard of the review columns in medical journals should be so high that an author would feel honored when his book is dignified by being reviewed. Reviews of this sort need not be of unreserved praise; dignified criticism is always desirable when offered by competent reviewers in true scientific spirit. "Roasts," on the other hand, are productive of unnecessary ill-feeling, even when bestowed on worthless books that had better be left entirely unnoticed. Managed in this manner, the book departments of medical journals would soon rise to something more than gratuitous advertisements of recent publications without discriminating between the worthy and the insignificant.

SOME STATISTICS OF INSANITY.

A recent study of the statistics of the Hudson River State Hospital for the Insane, by Dr. Charles W. Pilgrim,[1] though covering but a comparatively limited number of cases, presents some features of interest. In the first place, it seems to show that modern methods are productive of better results in the care and cure of the insane than those in the past. From the opening of the institution in 1871 until 1896, a period of twenty-five years, the average recovery-rate was about 21 per cent. on the admissions, and those discharged improved, 11.5 per cent., while, making all due allowances for earlier unfavorable conditions such as the larger proportion of chronic cases transferred to a new institution, the present total exceeds the above average by at least 9 per cent. This, it should be remembered, is an estimate made with the modern conservatism in estimating recoveries, for the old fashion of counting every lucid interval a recovery has of late years been replaced by an extreme caution in this respect. Many of the patients discharged as improved would have been counted without hesitation as recoveries in former years. Another point of interest in this connection is that these statistics support the hopeful view that bad as the outlook usually may be, yet while there is life there is hope in all insanities where there is not indisputable evidence of profound damage to the brain. Eight out of the year's recoveries had been insane for two to five years before reception, and nine had been inmates for like periods. Such facts, and they are frequent in asylum experience, indicate that even chronic insanity may yield to modern methods. An analysis is made by Dr. Pilgrim of the data as to the hour of death, a subject of possibly more popular than scientific interest, but one that is nevertheless worthy of study if only because of the popular beliefs. Dr. Pilgrim found that the most fatal hours of the day were between noon and 6 p.m., 31 per cent. of all deaths occurring within this period. In fact, the highest point of the death-rate in the statistics of the last decade was reached between the hours of 3 to 6 p.m.; the next highest point was between the hours of 3 and 6 a.m., though this was affected by a decided fall between the hours of 4 and 5 a.m., when it went down to the lowest figure in the whole twenty-four hours. These figures therefore show, as Dr. Pilgrim says, "that there is some reason for the popular belief that many deaths occur during the early morning hours, but they show still more plainly that the majority of those who suffer from long-continued mental disease give up their lives toward the close of the day." Still another point noted by Pilgrim, which bears out a popular belief, is that of the return of mental lucidity at or a little before the moment of death. He finds this true in many cases, especially in the insane dying from phthisis or acute intercurrent diseases or injuries that produce a profound shock on the general system. This fact has been often noticed, but, as he says, little has been written in regard to it. A perfectly satisfactory explanation has not been given nor has its psycho-pathologic significance been fully appreciated, possibly because of the difficulties of investigation necessarily involved. Dr. Pilgrim's article is a suggestive one, and indicative of the probable value of more general statistical studies of the kind in regard to insanity.

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[1] Am. Jour. of Insanity, July.

Medical News.

ALABAMA.

The Birmingham Medical College began its seventh annual session, October 2.

Dr. Milton B. Kirkpatrick, Montgomery, has been elected county physician of Montgomery county to fill the unexpired term of J. H. Naftel, deceased.

St. Vincent's Hospital, Birmingham, will not be ready for opening for about two weeks, but a few patients are being received to relieve the strain on the temporary hospital.

CALIFORNIA.

Dr. T. Edward Bailey, San Francisco, has succeeded Dr. Walter S. Thorne as chief physician and gynecologist at St. Mary's Hospital.

Dr. Isadore E. Cohn, Berkeley, as a result of a competitive examination, has been appointed third assistant physician of the Napa State Hospital for the Insane.

The Alameda Board of Health is framing an ordinance for presentation and passage which will make it a misdemeanor for any undertaker to handle a dead body without first securing the physician's certificate.

Col. A. C. Girard, chief surgeon at the Presidio Hospital, has declined the position of chief surgeon, Department of the Lakes at Chicago, on the ground that the duties of his position in Chicago would be mostly office details, while in his present position he has great opportunities for surgical work.

One of two helminthologists who crawled into Los Angeles from Mexico some months ago, was fined last week $50 for practicing medicine in Long Beach without a license. He had already paid two $100 fines to the city for the same offense. He was let off easy this time on the promise of leaving the country.

COLORADO.

The new building of the County Hospital at Colorado Springs is completed at a cost of $25,000.

Dr. Frederick E. Warren and Miss Ida M. Miller, both of Denver, were married at the country home of the bride's parents, October 3.

The St. Luke's Hospital Aid Society, Denver, reports that during the year, 1010 patients were treated in the hospital and that eleven nurses were graduated from its training school.

Denver's mortality for September was 58, a death-rate of 13.13 per thousand per annum. The births for the month numbered 114. Twenty-one cases of smallpox, 17 of scarlet fever and 40 of typhoid fever were reported during the month.

DISTRICT OF COLUMBIA.

The Providence Hospital medical board, on October 2, elected Dr. Middleton F. Cuthbert, gynecologist and Dr. Joseph S. Wall a member of the medical staff.

The health officer of the District reports 108 deaths for the week ended October 4, a death-rate of 20.16 per thousand per annum. During the week 15 cases of diphtheria and 6 of scarlet fever were reported.

The intendant of the Government Hospital for the Insane has transmitted to the commissioners a report for the fiscal year ending June 30, together with estimates for maintenance and improvements for the following year. The total estimate for the above amounts to $210,600, and $22,753 for salaries and operating expenses. The value of farm produce raised during the year was $6376.98.

Howard University Medical Department held its opening exercises at Freedmen's Hospital, October 1. Prof. Hodgkin, of the dental department, made the opening address.

The Georgetown University School of Medicine opened its fall term October 1. Dr. George L. Magruder, dean of the faculty, presided and announced the following changes in the faculty: Dr. John F. Moran, professor of obstetrics, vice Dr. Henry D. Fry, resigned; Dr. Isaac W. Blackburn, who has been ill for two years, resumes his duties as professor of pathology and morbid anatomy.

ILLINOIS.

Dr. Frank B. Fisher, Springfield, was married October 3 to Miss Carrie Furber at Carlinville.

Dr. William J. Chenoweth, the oldest practitioner in Decatur, has gone to California, where he will reside for the future.

The State Board of Health has decided to carry its case against Dr. W. Frank Cross, charged with unprofessional conduct in connection with medical colleges, to the Supreme Court.

Chicago.

Dr. James Nevins Hyde has returned from a trip to Norway.

Dr. George W. Webster has been appointed a member of the Illinois State Board of Health, to succeed Dr. R. F. Bennett.

Dr. Sarah Hackett-Stevenson has returned from her trip to Europe, which included the congress in Paris and the Passion Play at Ober-Ammergau.

The regular quarterly medical examination closed October 11. Forty-one persons took the examination, twenty-seven of whom are candidates for physicians' certificates, eight for certificates of midwife, and six are classed under the head of "other practitioners."

Dr. Arthur R. Reynolds, secretary to the Galveston Relief Committee, returned from his tour of investigation in Texas, October 15. He thinks that the contributions from Chicago public schools should be applied to the replacement of the public school system in Galveston.

A number of Chicago "Doctors" who have bought diplomas from the Metropolitan Medical College, or have in other ways violated the laws governing the practice of medicine, have been arraigned by the State Board of Health, which is now making a vigorous war against illicit practitioners.

More than 130 medical societies thus far have appointed representatives to attend the Fenger banquet. Dr. Charles A. L. Reed, Cincinnati, will be toastmaster; and Drs. Joseph M. Mathews, Louisville; Charles A. Wheaton, St. Paul; Charles B. Nancrede, Ann Arbor; Nicholas Senn and others will be among the speakers.

Errors in the form of the instructions given the jury in the Superior Court have brought a retrial of the X-ray suit, in which Frank V. Balling, the plaintiff, was awarded judgment. The suit was the result of the application of the rays to Balling's ankles by Dr. O. L. Schmidt and W. C. Fuchs, Mr. Balling declared that in consequence he was compelled to submit to three painful amputations.

HEALTH DEPARTMENT.

The recorded deaths for the week ended October 13 numbered 449—an increase of 51 over the previous week and of 30 over the corresponding week of 1899. This increase is not so serious as was apprehended in the Bulletin of October 6, as a result of the sudden change of temperature at the close of that week. In fact, the increase is in deaths from diseases with which—except as to diphtheria—the weather has little to do. Cancer, consumption, and heart and nervous diseases account for 40 of the increase. The diphtheria mortality has as usual increased steadily since the opening of the schools on September 10. Up to that date the weekly average of deaths from diphtheria had been 8. Following are the deaths by weeks since school opening: September 15, seven; September 22, 9; September 29, 14; October 6, 15; October 13, 21—a weekly average of 15 for the last four weeks, or an increase of nearly 90 per cent. over the previous weekly average. The death-rate per thousand per annum was 13.77; for the corresponding week in 1899, it was 13.59, and for the week ended October 6, 1900, 12.20. Of males 250, and of females 199 died. Under one year 93 died; between 1 and 5 years 54, and over 60 years, 80. The principal causes of death were: Acute intestinal diseases, 50; heart diseases, 49; consumption, 46; nervous diseases, 32; pneumonia, 27; cancer and diphtheria, each 21; Bright's disease, 18; typhoid fever, 11; scarlet fever, 4; suicide, 9 and violence, 19. During the week 575 births were reported. In the laboratory, 77 bacteriological examinations were made and 81 samples of milk were analyzed, 6.17 per cent. of which were found to be below grade.

LOUISIANA.

The New Orleans Board of Health has neglected to attach the necessary 50-cent. war stamp to the marriage bonds issued since July, 1898.

Dr. T. Edward Schumpert, manager of the Shreveport Sanatorium, has associated with him in its management Drs. Thomas G. Ford and J. Ashton Blanchard.

The election of officers of the Charity Hospital board at Shreveport, October 9, resulted in favor of Dr. Robert A.. Gray, president; Dr. Randell Hunt, chief surgeon, and Dr. Isaac M. Callaway, resident physician and superintendent.

The State Board of Health has issued blanks to the various health officers and coroners throughout the state in accordance with the law passed by the last legislature regarding the collection of vital statistics in the country parishes. The reports are to be made quarterly, and from them the vital statistics of the state will be tabulated.

MARYLAND.

At the monthly meeting of the board of directors of Springfield Asylum for the Insane, October 10, it was decided not to admit feeble-minded and idiotic children to the institution.

Dr. Howard Bratton, health officer of Cecil county, reports that there were 26 cases of typhoid fever in that county in September, with 5 cases of diphtheria at Providence and 2 at Pleasant Hill.

Baltimore.

Dr. Charles O'Donovan was elected vice-president of the Catholic Club.

Dr. George W. Dobbin was married to Miss Beatrice Dunderale, of Chicago, October 14.

Dr. John C. Hemmeter has returned after a tour embracing the principal cities of Europe.

The College of Physicians and Surgeons formally opened for its twenty-ninth annual session on October 1.

In computing the death-rate after January 1, 1901, the health department will accept the U. S. census population figure.

Johns Hopkins University Medical Department opened October 1, with a total enrollment of 215. Dr. Percy M. Dawson has been made associate professor of physiology and Dr. William G. MacCallum associate professor of pathology.

The jail board has named a resolution requesting Dr. Thomas Opie, one of its members to consult with Dr. George L. Wilkins, jail physician, as the best way of keeping tuberculous prisoners isolated from other prisoners, and of otherwise lessening the possibility of a spread of the disease.

For the week ended October 13, the deaths were only 169 against 192 for the previous week, a death-rate of 16.24 per thousand per annum. There were 9 deaths from typhoid fever, 5 from diphtheria and "croup," 16 from tuberculosis, 8 from cancer, 7 from pneumonia, 10 from cholera infantum, and 12 from Bright's disease. New cases were reported of diphtheria, 49; typhoid fever, 47; scarlet fever, 10; measles, 14. Only 114 births were reported.

MICHIGAN.

An instance of cheese poisoning occurred at Climax, in which cheese there was found, at the State Laboratory of Hygiene, a virulent form of the colon bacillus.

The Delta County Hospital has completed a $4000 addition, and within two weeks, twelve additional rooms will be ready, which will give the hospital a capacity of 75 beds.

About two months ago H. Reynolds arrived in Coldwater from Detroit and began the practice of medicine. He was arrested October 10 on the charge of practicing without a license, and in the default of bail was locked up in the county jail.

A number of the diplomates of the Independent Medical College, Chicago, who thus far defied the law, appeared before the State Board of Examination and Registration, October 9 and 10 at Lansing. They are evidently beginning to appreciate that they must obey the law or leave the state.

Two buildings, each 50x104 feet and two stories high, are almost completed for the Upper Peninsula Hospital for the Insane at Newberry. The State Board of Corrections and Charities will recommend an appropriation of $171,000 to erect two more cottages, an infirmary and an amusement hall for the hospital.

The State Board of Health has received the following communication from a resident of one of the interior cities: "How does the State Board view the matter of death certificates? . . . We have two men here who have not been registered, and who have made application and been informed that they were not eligible, and yet they are doing business just the same as though they were. One of them has more funerals than all the other doctors put together."

MINNESOTA.

The establishment of a down-town corps of nurses for the poor, is under consideration in Minneapolis.

Dr. Nellie S. Shulean, Minneapolis, a graduate of Hamline University, has gone to Porto Rico as a medical missionary.

Forty-three applicants for licenses to practice medicine in Minnesota appeared before the State Board of Medical Examiners at St. Paul, Oct. 2. Four of the applicants were women.

The State Institutions for dependents have 306 more inmates than in September 1899, 142 of whom are in the state hospitals for the insane. There are now 6107 inmates in state institutions.

Additions to the teaching force in the medical department of Hamline University are the following: Dr. Horatio B. Sweetser, Minneapolis, professor of surgery; Dr. Frederick J. Plondke, St. Paul, instructor in histology; Dr. Charles F. Disen, Minneapolis, assistant in anatomy, and Drs. Lyle C. Bacon, Knox Bacon and Mason Allen, St. Paul, assistants in clinical medicine.

MISSOURI.

Dr. Edward Evans Parrish and Miss Estella Martha Mudd, both of Memphis, were married Oct. 2.

Dr. John Albert James James, St. Louis, was married to Miss Nelle Blanche Robeson, at Rochester, N. Y., Oct. 2.

Dr. W. Elmer Montgomery, Kansas City, was married to Miss Grace Hubbert, of Neosho, Mo., at St. Louis, Oct. 3.

Dr. William Baron, who has been studying in Germany for a year past, has returned to his home in St. Louis.

The Health Department of Kansas City has wisely decided to leave the problem of fighting smallpox and taking precautionary measures against it to the judgment of the city physician, Dr. Coffin.

Dr. S. C. James, the Kansas City member of the State Board, is making a praiseworthy effort to stop the illegal practice of medicine in his city. He is particularly after one whose diploma "by the Missouri Eclectic Medical College of Kansas City, Mo., was entirely complimentary and was not intended to indicate his attendance or graduation from this institution."

The crusade against unlicensed physicians in St. Louis has begun. The secretary of the State Board of Health has obtained warrants charging practice of medicine without a license, against three of the thirty-three unlicensed practitioners, and says that the day of arraignment for the others is just dawning.

NEW YORK.

Dr. James A. Cronin, Buffalo, was married to Miss Mame Richards, at Seneca Falls, Oct. 3.

In Utica during September, 102 deaths were reported, a death-rate per thousand per annum of 21.5. The birth-rate for the same period was 19.1.

An Armenian who claimed to be a licensed practitioner was sent to jail for 55 days by Recorder Morschauser, Poughkeepsie, for defrauding a boarding-house keeper.

The first of a series of small colonies or farms for consumptives has just been established at Schroon Lake, in the foothills of the Adirondacks, by the Indigent Consumptives' Association, of which Dr. J. Austin Kelly is president. A plot of ground nearly 5000 acres in extent has been purchased, which will be laid out in small farms, each having its own house, truck patch or vineyard, where the patients can work and have some diversion from the contemplation of their own and their neighbors' ills.

New York City.

Dr. Thomas M. Neafrey, house surgeon at the Harlem Hospital, was married a year ago to Miss Winters, of Sea Cliff, Long Island. As the rules of the hospital required all internes to be unmarried, he did not disclose his marriage until the expiration of his term on Oct. 1.

The City Branch of the Loomis Sanitarium for Consumptives has recently been enlarged, and the required number of beds added to make this hospital eligible for admission to the Hospital Saturday and Sunday Association. It has now been admitted to this association, being the thirty-ninth on the list.

Last week the health officer of the port discovered the first case of yellow fever that has developed among saloon cabin passengers this year. The patient was on the Ward line steamer *Havana*, and as he presented suspicious symptoms on the arrival of that vessel, he was placed on Hoffman Island for observation. By the next day there was no longer any doubt that he was suffering from yellow fever.

At a meeting of the medical board of the Metropolitan Dispensary and Hospital, the following resolution was passed: "Inasmuch as by the death of Dr. John M. Brown [see The Journal, Sept. 29, p. 836], the Metropolitan Dispensary and Hospital has sustained a loss which is poignantly felt and with difficulty retrieved, and since, individually, we miss the rugged honesty, the incorruptible friendship which was constantly evidenced to us who knew him intimately, be it *Resolved*, that this feeble expression of our esteem for his character and our appreciation of our loss be spread on the minutes, and a copy of this resolution be sent to his family and to the medical press."

OHIO.

Dr. Philip Sebastian Rieg and Miss Frances Margaret Weick, both of Toledo, were married, October 10.

Dr. W. Merritt Johnston, Findlay, has been elected county physician of Hancock county, to succeed Dr. Harry D. Belt.

Dr. and Mrs. Yeatman Wardlow, Columbus, were robbed of nearly $3000 in cash and jewels at a hotel in New York, where they were spending their honeymoon.

McGuffy, Hardin county, is having an epidemic of smallpox. Dr. Charles O. Probst, secretary of the State Board of Health, has been notified that there have been 53 cases, but that the disease is now abating.

The medical department of Western Reserve University, Cleveland, began its fifty-sixth year on October 3. Dr. Henry S. Upson delivered the opening address. Dr. George W. Crete has been made professor of clinical surgery.

A physicians' social club is to be formed in Cincinnati, with headquarters in the old Union City Club. The founders are Drs. N. Pendleton Dandridge, William H. Taylor, Jr., Joseph Hall, Jr., John E. Griewe, Paul Gillespie, Mark A. Brown and Charles E. Caldwell. The club will be known as the Cincinnati Medical Club.

The health officer of Cincinnati says that his department has sent to the hospital more than a dozen prostitutes suffering from contagious diseases, all of whom had medical certificates pronouncing them free from venereal disease. The inspection of these women by the health department is opposed by some physicians of the city.

The State Board of Medical Examination and Registration expects many of the osteopaths to leave the state within the next few weeks. None of them presented themselves at the last examination and the board will take steps to have those remaining in the state indicted for violation of the provisions of the law. The next examination will be held in Columbus, for three days during the week commencing Dec. 1.

That local boards of health may step in and take charge of cases of illness where the patient is not receiving proper attention, is the substance of a decision rendered by Dr. C. O. Probst, of the State Board of Health. Dr. H. A. Snorf, of Ansonia, asked for instructions regarding a little girl lying very ill, whose parents were Dowieites and refused to call in a physician. After consultation with the attorney-general, Dr. Probst replied that there was no doubt that the local board of health could take entire charge of the case, send a physician to take care of the child, and if necessary remove her to a hospital for proper treatment.

PENNSYLVANIA.

Dr. John B. Lowman, Johnstown, returned on Oct. 5, from his trip to Europe.

The West Penn Medical College, Pittsburg, opened for its annual session on Oct. 2.

Dr. David T. McKinney, New Brighton, was married to Miss Catherine Minnis, at New Haven, Oct. 3.

The Lock Haven Hospital has received a donation of a building site more than four acres in extent, on Susquehanna avenue, from Mr. Wilson Kistler, president of the hospital association.

The State Convention of County Commissioners, which met at Allentown October 9, considered whether or not the office of coroner should be abolished. Opinion seemed to be divided. One resolution provided for the repeal of the law which requires registration of the births and deaths of persons in the state.

The State Directors of the Poor made an investigation of the insane asylum of Luzerne county, October 11, and found the management to be so good that they have decided to recommend the plan of this institution to others in the state. The new building cost $300,000. The inmates of the asylums at Danville and Wernersville have been taken to this hospital.

Philadelphia.

Drs, Judson Daland, W. M. L. Coplin and Charles P. Noble have returned from their trip to Europe.

Dr. F. Savary Pearce has been appointed clinical professor of nervous diseases in the Medico-Chirurgical College, to succeed Dr. Charles W. Burr, resigned.

Dr. Joseph McFarland, professor of pathology, delivered the address at the opening of the Medico-Chirurgical College, on "The Relation of the Mosquito to Malaria Fever."

Dr. Ella B. Everett delivered the address to the students at the opening of the Woman's Medical College, September 26. The following changes in faculty are announced: Dr. William V. Laws, professor of clinical and operative surgery, and Mae T. Harders, demonstrator of pharmacy.

Edward M. Paxson, formerly chief justice of the Supreme Court of Pennsylvania, has been elected president of the Medico-Chirurgical College, to succeed C. William Bergner, resigned. It has been decided to select only laymen as members of the board of trustees of this college, hereafter. At the present time a large number of physicians serve on the board.

The seventeenth annual report of the Kensington Hospital for Women has been issued and shows that there were treated in the hospital during the year 839 cases, as compared with 602 cases in the previous year. Several additions are to be made at an early date, including an isolated ward for septic cases. Dr. Charles P. Noble was elected surgeon-in-chief for the ensuing year. The new directors are Bishop O. W. Whitaker, William P. Ellison, Dr. Howard A. Kelly and John B. Stetson.

The deaths in the city for the week ended October 13 were 338, an increase of 4 over the previous week, and a decrease of 44 as compared with the previous week of 1899. The principal causes of death were: Apoplexy, 3; nephritis, 22; cancer, 16; tuberculosis, 55; heart disease, 22; bronchitis, 4; pneumonia, 14; inflammation of stomach and bowels, 14; marasmus, 17; poisoning, 2; suicide, 2; and tetanus, 1. Of contagious diseases 99 cases of diphtheria were reported, with 16 deaths; scarlet fever, 24 cases, 1 death; typhoid fever, 49 cases, 10 deaths.

The University of Pennsylvania will be the recipient of a gift on the part of Mrs. S. Weir Mitchell, who intends building as a memorial to her daughter an addition to the hospital, which will be used as a general ward or will be devoted to the treatment of contagious diseases. The idea of a pay hospital for contagious diseases originated in Philadelphia several years ago, and up to this time about $5000 or $6000 has been raised to establish that institution, The new building will be a welcome addition to the University.

At the last meeting of the Board of Charities and Corrections, held a few days ago, Dr. John V. Shoemaker introduced a resolution to enlarge the clinical teaching in the Philadelphia Hospital. In this way it is hoped to offer advantages similar to those found in Vienna, and other cities of Europe. The general clinics and pathologic instruction are to be free to all students registered at the different medical schools. General clinics are to be given in the amphitheater twice each week, and assignments for clinical lectures are to be made from the medical staff. Classes of students are not to exceed ten at one time. Surgical and gynecological cases are to be open to physicians and students under proper regulations. Clinical lectures on and presentation of cases of insanity will be made a special feature, and the teaching of the different specialties will be arranged by the respective members of the medical staff. Pathologists will be allowed to have classes, not exceeding twenty-five in number in the hospital museum. While such a liberal offer has been made for the utility of the different clinics to be held, the welfare of the sick is to be considered the first duty of the physician. Dr. Simon Flexner and Dr. Joseph McFarland were appointed pathologists to the hospital, and Dr. R. F. Sonnekamp assistant physician to the insane department. Dr. Robley D. Newton becomes surgical registrar.

TENNESSEE.

Dr. Heber Jones, President of the Memphis Board of Health, has gone to Europe for a three months' vacation.

The Vanderbilt University Medical Department, Nashville, opened for the college year, Oct. 1. Dr. Richard Douglas delivered the address of welcome and Dr. John A. Witherspoon conducted the first clinic at the City Hospital.

Dr. Henry P. Coile, city physician of Knoxville during 1898 and 1899, who sued the city for $5,000 which he claimed was due him for attending smallpox cases while in the employ of the city, has been non-suited and will appeal to the Supreme Court.

Initial steps were taken at the recent meeting of the Tri-State Medical Society of Tennessee, Alabama and Georgia, at Chattanooga, to secure medical legislation in the three states mentioned regulating or prohibiting the marriage of habitual criminals, persons afflicted with incurable diseases, drunkards and victims of harmful drugs.

The Medical College of the University of Nashville opened for its annual session, Oct. 1. Dr. William G. Ewing made the annual address, which dealt with the history of the institution. The changes in the faculty are: Dr. Carl C. Warden, professor of anatomy; Dr. William G. Frierson, adjunct professor of surgery, and Dr. J. Dillard Jacobs, professor of physiology and hygiene.

Two undertakers, named Thompson, were recently convicted in Memphis of having engaged in cadaver traffic. They were said to have shipped bodies out of the state in zinc-lined and air-tight trunks. The undertakers were sentenced to pay a fine of $750 each, and to serve 11 months and 29 days in the workhouse. The case was appealed to the Supreme Court, where the finding of the lower court was approved. Governor McMillan was then petitioned for a pardon, and wrote to the clerk of the Shelby County Criminal Court instructing him not to execute the sentence until the governor could look into the case. Some three months later, as the governor had taken no action in the matter, the sheriff was instructed by the judge of the criminal court to carry the sentence into execution.

TEXAS.

The Health Department of Galveston has established two depots for free distribution of disinfectants.

The John Sealy Hospital, Galveston, is being repaired at the expense of the son and daughter of the philanthropist who donated the building to the state.

The Galveston Board of Health has issued regulations requiring innkeepers to report any case of sickness to the health physician within six hours; and also requiring physicians to report to the same official within six hours full particulars of any patient "sick of any malignant fever or infectious or pestilential disease."

Brackenridge Hall, the dormitory for the female students of the medical department of the University of Texas, Galveston, which was badly wrecked, is being completely restored and refurnished by Col. George W. Brackenridge, of San Antonio. He has also advanced to the university the money needed for the repairs to the medical school.

VIRGINIA.

The will of the late Dr. Benjamin Harrison, Richmond, was admitted to probate Sept. 21. The value of the estate is $2000.

Dr. Charles V. Carrington, Richmond, has been appointed surgeon to the State Penitentiary, to succeed Dr. Benjamin Harrison, deceased.

The University College of Medicine, Richmond. held its formal opening Oct. 5. Dr. Landon B. Edwards presided. The address was delivered by Dr. Henry Pervis Smith, Davidson College, N. C., on "The Intellectual Value of Scientific Training."

The Medical College of Virginia, Richmond. began its sixty-third annual session October 20. Dr. Christopher Tompkins. dean of the college, delivered the inaugural address. Dr. Ennion G. Williams has been made professor of histology, pathology and bacteriology, vice Dr. Ernest C. Levy. resigned.

WASHINGTON.

Dr. Samuel J. Holmes, bacteriologist of the board of health of Seattle, has resigned, after a service of two years.

Dr. William G. Booth, Seattle, was married to Miss Fannie Hamilton Norfolk, of North Walbrook, Md., September 11.

St. Luke's Hospital, Spokane, was reincorporated September 7. A site for the new building has been donated by John A. Finch.

The corner-stone of the Sisters of Peace Hospital, New Whatcom, was laid with appropriate ceremonies by Bishop John O'Dea, on September 23.

WEST VIRGINIA.

The incorporation of the Harrison County Hospital Company at Clarksburg is announced.

Morgantown has a new hospital, which was opened for service, October 3. It has been thoroughly equipped by its owner, Dr. Spencer S. Wade, and is intended for the use of the local profession.

Dr. Cassius C. Hogg. Huntington, has been promoted and is now major and surgeon, assigned to the Second Infantry, W. Va. N. G.; and Dr. G. Clarence Schoolfield, Charleston, has been commissioned first lieutenant and assistant-surgeon and assigned to the same command.

WISCONSIN.

Racine has about 50 cases of typhoid fever. Some of the physicians have been lax in reporting cases.

Dr. Robert A. Kitto, Racine, who lost an eye by a street-car accident, a year ago, has so far recovered $18,000 from insurance companies.

The Milwaukee Medical College opened for its seventh annual session. October 2. Dr. John Madden delivered the address of welcome.

At a meeting of the State Board of Medical Examiners held at Oshkosh. October 9 and 10. 75 licenses were granted to applicants with diplomas from reputable colleges. Four applicants with diplomas from the Metropolitan College of Illinois were denied licenses.

CANADA.

Dr. A. Holmes Simpson, Winnipeg, has been appointed by the Provincial Government of Manitoba, chairman of the Provincial Board of Health.

Dr. Werster, of the Rockwood Asylum, Kingston, has been transferred to the Hamilton Asylum for the Insane, and Dr. Herriman of the Hamilton Asylum goes to the Rockwood Asylum. Both changes are promotions and will come into effect November 1.

News from Dawson under date October 4, states that quarantine has been established at the Forks of Bonanzo and Eldorado, against smallpox. Smallpox is epidemic at Eldorado, twelve miles from Dawson. There are also twelve cases on the isolation island, two miles below Dawson. A smallpox hospital is under construction at Dawson, and there is felt some uneasiness lest that city be quarantined against the outside world.

The Medico-Chirurgical Society of Montreal has elected the following officers for the ensuing year: Dr. J. Perrigo, president; Dr. Stirling, first vice-president; Dr. Macarthy, second vice-president; Dr. Bazin, secretary; Dr. Jack, treasurer; and librarian, Dr. Lockhart. The retiring president, Dr. J. George Adami, in his report, stated that the society was ready to go on with the work of compiling the addendum to the British Pharmacopeia, and that it would co-operate with Westmount in the erection of a contagious disease hospital.

QUEEN'S UNIVERSITY, KINGSTON.

A public meeting was held in the city of Kingston, October 9, for the purpose of discussing the granting by the city of $50,000 to Queen's University. Principal Grant said that the passing of the bonus would in the first place anchor Queen's to Kingston and put an end to rumors about the University going elsewhere; then it would increase the capacity of the students from 500 to 1000. It would also give Kingston a right to go to the provincial government, showing that there are only two educational centers in Ontario, and that Kingston has as much right for consideration as the other one in Toronto. This attitude of Queen's is interesting to medical educationists throughout the province, as if aid be granted by the government as sought, it would be placing the Medical Department of Queen's on a par with the Medical Department of Toronto University.

FOREIGN.

The French medical papers are urging the imposition of an extra tax on alcohol and absinthe for the purpose of raising funds for tuberculosis sanatoria.

Dr. Silva, a delegate from Mexico to the International Medical Congress. stated in his address that no case of criminal abortion had ever come before a Mexican court.

Dr. A. Kuhn. professor of otology at Strassburg, died Sept. 16, 63 years of age. His principal contributions to scientific literature were on the anatomy of the ear.

The present mayor of Lyons, France, is Dr. Augageur, who is at the same time professor in the medical faculty and surgeon-in-chief at one of the hospitals. His predecessor in the office of mayor was also a physician. and occupied the position for thirty years.

A life-insurance company in Gotha states that the number of policy-holders who have died of cancer during the last ten years is 1 per thousand more than during the preceding decade. The greatest increase is in policy-holders between the ages of 66 and 70.

The University of Odessa has organized a medical department and placed it in charge of Podwyssotzki, the eminent pathologist of Kieff. Both the Russian and German medical schools report a diminished attendance this year. In Germany the number of medical students has fallen from 8848 in 1890, to 7518 this year, while the attendance in the law schools has increased by 3000 during this period.

The medical inspectors of schools in Frankfurt, Germany, receive $250 a year, and have oversight over 1700 scholars. Two hours every two weeks must be devoted to each school. The children are given a "health book" when they first enter, and it accompanies them through all their school life. Several of the large cities of Germany now have medical inspection of schools. but the system has not yet been introduced into Berlin.

The editors of the *Bibliographia Medica* announce that they will soon commence the publication of special editions of the *Bibliographia* each limited to one of the following specialties: 1, anatomy. physiology and veterinary subjects; 2, hygiene, legal medicine and assistance; 3, therapeutics and materia medica; 4, internal and general medicine; 5, general and special surgery. and 6, gynecology, obstetrics and pediatrics.

The Berlin sickness-insurance institution (Anstalt) has doubled the capacity of its sanatoria during this last year.

By judicious selection of the inmates 85 per cent. of the 592 patients dismissed in 1899 from the sanatorium at Goetersgolz have been able to resume their occupation. The institution is to extend the principle of sanatorium treatment to syphilitic policy-holders after this year, and has already acquired land for the purpose in one of the suburbs of Berlin.

The Slavonic members of the profession have taken measures for closer organization and more extended intercourse between them and the outside world. A committee has been formed to decide on a uniform scientific terminology from comparative study of Russian, Polish, Bohemian, Servian, Bulgarian, etc. Dr. Pesina, of Prague, is the secretary. Subcommittees are to be formed in each of the countries interested. It has also been decided to publish a general review of contemporaneous Slavonic medical literature, entirely in French. Dr. Gundrum is in charge of this matter.

LONDON LETTER.

THE PLAGUE IN GLASGOW.

Thanks to the very careful and elaborate precautions of the authorities, of which I have informed you, the outbreak of plague appears to have come to an end. For nearly a fortnight no new cases have occurred. At present there are in hospital 21 cases of plague and 2 suspected cases. Two deaths have taken place in the past week. The number of persons who have been in contact with cases of plague and are detained under observation in reception houses is now reduced to 19. No doubt now remains that the Glasgow outbreak is of the same nature as that which ravaged London two and a half centuries ago; the symptoms are the same. But the means of recognition, especially the bacteriological, and the methods of sanitary defense are quite new; hence the different result. Glasgow has reaped the reward of having in the first place keen medical men who quickly recognized, first, that they had an infectious disease of doubtful nature under observation, and soon afterward that it was the dreaded plague, and in the second place of an elaborate sanitary system worked by an alert police. The most satisfactory theory of the origin of the outbreak is that the source was an unrecognized ambulant case which occurred in some sailor or traveler. As in other diseases, while plague is extremely easy of recognition in well-marked typical cases it is not so in its slighter and atypical forms. This fact is borne out in the present outbreak, for many of the cases would never have been recognized but for the association of the patients with well-marked cases. Yersin's serum was used in the treatment and seems to have given very satisfactory results. It was injected into the veins in doses of 20 c.c. Persons who were known to have been in contact with cases were given subcutaneous injections of 10 c.c. as prophylaxis.

THE SOUTH AFRICAN HOSPITAL COMMISSION.

The commission has left Johannesburg and visited the hospitals throughout Natal, taking evidence as it traveled. Further evidence was given that the medical staff was undermanned and hampered with "red tape." At Pietermaritzburg it was stated that the hospital was unsuitable. It was infected with bugs, which were found even under the patient's splints. Some men suffered terribly, and one enteric patient ran away in delirium, saying he could not stand the bugs. At Kimberley the evidence given by the doctors and the members of the hospital staffs conflicted with that given by the soldiers. The former agreed that the hospitals in the town were well arranged and well equipped, and that no complaints had been made. The latter, on the contrary, complained of bad treatment at Paardeburg owing to lack of administrative ability. The field hospitals, they said, were so badly placed that many men had to lie in pools of water. The camp at Maitland was placed in a similar position, the men lying in tents full of water, many of them without blankets, overcoats or oilskins.

The letters published by Mr. Burdett-Coutts in the *Times*, which it will be remembered were the cause of the commission, have made him immensely unpopular with a section of his own Tory party. His leader, Mr. Balfour, treated him with gross discourtesy in the House, and ridiculed even his cogent arguments. He has been opposed at the general election, which is now proceeding, by another Tory candidate. However his constituency, Westminster, have marked their approval of his actions by returning Mr. Burdett-Coutts by a majority of 2715 votes against 439.

THE CONSUMPTION OF TOBACCO IN THE UNITED KINGDOM.

According to the government report the consumption of tobacco was higher in 1899-1900 than it has ever been known before, with the exception of a single year. It was 90,000,000 pounds, which is 2 pounds per head of the population. On the point of purity the report is very satisfactory. In 95 samples taken from manufacturers and dealers 20 were found to be mixed with licorice or glycerin. Twenty-two specimens of snuff were analyzed and except one, which contained an illegal proportion of alkaline salts, all were conformable to law.

MALARIA AND MOSQUITOES.

The part played by mosquitoes in the transmission of malaria is now being very actively investigated. The recent exceedingly dramatic attempt to prove Dr. Manson's theory has been so far successful. Drs. Sambon and Lowe, of the London School of Tropical Medicine, have now lived in a mosquito-proof tent, in the fever-stricken Roman Campagna from the early part of July up till September 21, without contracting malaria. What may be called a complimentary proof of the mosquito theory is equally satisfactory. Mr. P. T. Manson, son of Dr. Manson, has allowed himself to be made the subject of experiment—to be bitten by mosquitoes sent from Rome to London, which had been fed on a patient with a double benign quartan infection. Mr. Manson was bitten on August 29 and 31 and on September 2, 4, 10 and 12. On September 13 he had a feeling of languor and felt chilly, which symptoms were followed by headache, pains in the bones and a temperature of 101.4. The usual symptoms of tertian fever developed and the spleen became enlarged. Tertian parasites were found in his blood. Under quinin he recovered.

At the end of 1898 a committee was appointed jointly by Mr. Chamberlain and the Royal Society to investigate malaria, and it was determined, in view of the connection with mosquitoes, that collections should be made of the different species in the various tropical colonies. These have been forwarded to the Natural History Museum at South Kensington. Over 3000 specimens have been received and more are constantly coming in. The work of identifying and classifying them is performed by a professional dipterist, Mr. Theobald, who is preparing a monograph on mosquitoes, based on the collections at the museum. The genus Anopheles, which is the medium by which malaria is transmitted from person to person, is represented in the museum by 22 species. Although the genus is world-wide, the distribution as regards species is not wide. One of the greatest distances between any two localities for the same species is Formosa and the Straits Settlement.

Correspondence.

Yellow Fever Etiology.

Washington, D. C., Oct. 8, 1900.

To the Editor:—In Surgeon Wasdin's paper, published in The Journal, Oct. 6, 1900, p. 807, he says:

> During my experimental work we were honored by a visit, at our laboratory in Havana, from Dr. Sternberg, who said to me, while passing through our animal room, that the strongest argument against the acceptance of the specificity of any one of the organisms advanced as the cause of yellow fever, was the fact that no one of them, during experiments in laboratory, had ever communicated this disease by natural infection to the animals of those laboratories; and he asserted that, whenever such infections should occur, the lesions being characteristic, and the organism recovered, he would accept that organism thus demonstrated as the cause of yellow fever, and such demonstration as the proof of its specificity.

I think that Dr. Wasdin must have misunderstood me. My recollection is that I said to him, what I have frequently said to others, that to my mind one of the strongest arguments against the specific rôle of Sanarelli's bacillus was the fact that no one—man— had contracted yellow fever from exposure in laboratories where experiments upon animals were being conducted. Man is known to be especially susceptible to yellow fever, whereas there is, so far as I know, no satisfactory evidence that any of the lower animals suffer from the disease during the prevalence of an epidemic. During my first visit to Havana, in 1879, I exposed various animals, including dogs, guinea-pigs and rabbits, on a filthy ship in the harbor, which I assumed to be infected, as nearly all the members of the crew were sick on board with yellow fever. After this exposure I carefully observed my animals for several days, taking their temperature twice daily, but the result of the experiment was entirely negative.

In a report by Reed and Carroll, of their investigations made at the Army Medical Museum in this city, not yet published, but soon to appear in the *Journal for Experimental Medicine*, they arrive at the following conclusions: "1. Bacillus X (Sternberg) belongs to the colon group. 2. Bacillus icteroides (Sanarelli) is a member of the hog-cholera group. 3. The various channels of infection, the duration of the disease and the gross and microscopical lesions in mice, guinea-pigs and rabbits are the same for the bacillus icteroides and the hog-cholera bacillus. 3. The clinical symptoms and the lesions seen in dogs inoculated intravenously with bacillus icteroides are reproduced in these animals by infection with the hog-cholera bacillus. 5. Bacillus icteroides when fed to the domestic pig causes fatal infection accompanied by diphtheritic, necrotic and ulcerative lesions in the digestive tract, such as are seen in hogs when infected with the hog-cholera bacillus. 6. This disease may be acquired by exposing swine in pens already infected with bacillus icteroides, or by feeding them with the viscera of infected pigs. 7. Guinea-pigs may be immunized with sterilized cultures of bacillus icteroides against a fatal dose of the hog-cholera bacillus, and vice versa. 8. Rabbits may be rendered immune by gradually increasing doses of a living culture of bacillus icteroides of weak virulence against a fatal dose of a virulent culture of the hog-cholera bacillus. 9. The sera of animals immunized with bacillus icteroides and the hog-cholera bacillus show a marked reciprocal agglutinative reaction. 10. While the blood of yellow fever practically does not exercise an agglutinative reaction upon bacillus icteroides, the blood of hog-cholera agglutinates this bacillus in a more marked degree, thus pointing, we think, to the closer etiological relationship of this bacillus to hog-cholera than to yellow fever."

It is well known that mice, rabbits and guinea-pigs are very susceptible to infection by the hog-cholera bacillus and that they may be readily infected through the respiratory tract. It is difficult to understand how Drs. Reed and Carroll, and their laboratory assistants, who have been conducting experiments with Sanarelli's bacillus during the past two years, and during the summer months as well as in winter, could have escaped infection if this is truly the specific germ of yellow fever. The same remark applied to Dr. Wasdin and many other non-immunes who have conducted similar experiments in various parts of the world. These experiments at the laboratory of the Army Medical Museum included a large number of inoculation experiments upon lower animals and the making of autopsies when they died. That Dr. Carroll was susceptible to the disease is shown by the fact that he has suffered a severe attack this summer in Havana.

Of course, precautions as regards disinfection are taken, but it would appear that a lot of animals infected with the yellow-fever germ kept in the animal room of a laboratory during the summer months would be very likely to give rise to a local epidemic of the disease, or at least to infect a non-immune attendant whose duty it was to clean their cages.

From Wasdin's point of view the question of yellow-fever etiology is settled. I regret to say that I can not concur in this opinion. The researches which have been made by the board of which Reed and Carroll are members, in Havana during the present year, are not favorable to this view. I think, therefore, it will be wise for conservative physicians not to consider this matter as definitely settled until the evidence is all in. I may remark that the Liverpool School of Tropical Medicine has sent a commission of experts to study the disease in Brazil. I would also call attention to the fact that the researches of Dr. Adolph Lutz, a very competent bacteriologist, made at San Paulo, Brazil, are not favorable to the Sanarelli bacillus. His results are published in the *"Rivista d'Igiena e Sainta Publica* (July, 1900). Very truly yours,

George M. Sternberg.

Deaths and Obituaries.

Joseph Payson Wright, M.D., assistant surgeon-general U. S. A., died suddenly at his home in Washington, October 8, aged 74. He was the son of Brevet Brigadier-General J. J. B. Wright, surgeon, U. S. A., a distinguished officer of the medical department whom many will recall personally. He graduated in arts at Dickenson College, Carlisle, Pa., 1858, and in medicine, 1860. His record of service is one extending back to the early years of the civil war. He entered the service as assistant-surgeon in May, 1861; was promoted to a captaincy in May, 1866; to a majorship in July of the same year; as lieutenant-colonel in April, 1889, and attained his final rank, that of colonel and assistant surgeon-general, on May 16, 1894. During the civil war his service was principally in the departments of Ohio and Cumberland, with General Grant's army in the field at Florence, Miss., and on various executive duties as medical purveyor and assistant medical-director. His long service necessarily took him to various posts and stations, chiefly in the West. He was ordered to the military prison at Fort Leavonworth, Kan., in July, 1884, at which place he served many years. During his more recent service Colonel Wright served as medical purveyor in charge of the large depot in St. Louis, from December, 1893, until he was detailed as chief surgeon, headquarters, department of Dakota, St. Paul, Minn., November 24, 1899. At the time of his death he was on leave of absence pending his retirement on Dec. 25, 1900 .

William V. Morgan, M.D., a prominent surgeon of Indianapolis, at one time in charge of the department of surgery of the *Medical and Surgical Monitor*, died October 3 of peritonitis, aged 47. He was graduated from the medical department of Washington University in 1875. He had been a member of the faculty of the Central College of Physicians and Surgeons, was ex-president of Marion County Medical Society, and of the Mitchell District Medical Society, and member of the American Medical Association.

George W. Seay, Jr., M.D., Nashville, Tenn., a graduate of Vanderbilt University medical department in 1887, died September 26, from a gunshot wound in the head, aged 35. He was a member of the faculty of the University of Tennessee, major-surgeon of the 5th Tennessee Infantry, and served during the Spanish-American War as assistant-surgeon, 2d Tennessee Infantry, U. S. V.

Joseph McKee, M.D., who had resided in South Denver, Colo., for about twenty years, died September 27. He was graduated from the medical department of Western Reserve University, Cleveland, Ohio, in 1852.

N. Rounds Barnes, M.D., Binghamton, N. Y., a graduate of Albany Medical College in 1858, and in the Civil War surgeon of the 76th and then of the 184th Infantry, N. Y. V., died at his home September 30, aged 65.

Charles Roemelt, M.D., acting assistant-surgeon, U. S. A., died July 20, while serving in the Philippines. Dr. Roemelt was born in Elmira, N. Y., in 1876, and was graduated from the University of Buffalo.

Stephen E. De Witt Hoornbeck, M.D., College of Physicians and Surgeons, New York, 1865, died at Ellenville, N. Y., October 3. He had for some years abandoned medicine for general business.

William A. Grover, M.D., Berkshire Medical College, Pittsfield, Mass., 1843, died at Berkeley, Cal., October 4, aged 82 years. He was the first secretary of the California State Medical Society.

John Cortee Fairfax, M.D., University of Pennsylvania, 1853, died, after a brief illness, at his home, "Northampton," Prince George County, Maryland, October 28, aged 70 years.

John A. Leader, M.D., University of Vermont, 1888, a practitioner of Lewiston, Me., aged 35, died at Boston, October 9, after undergoing an operation for ear trouble.

Thomas J. Woolf, M.D., New Iberia, La., a graduate of Tulane University medical department, New Orleans, in 1878, died at Denver, Colo., September 30, aged 48.

Crawford Irwin, M.D., Jefferson Medical College, 1847, died at Hollidaysburg, Pa., October 8, aged 76 years. He was an ex-president of the State Medical Society.

Jacob P. Russel, M.D., Medico-Chirurgical College, Philadelphia, 1888, died October 8. at his home in Philadelphia, after a lingering illness, aged 64 years.

John P. Hodges, M.D., Danville, Ala., who was graduated from the University of Nashville medical department in 1873, died September 25, after a long illness.

Stephen D. Thach, M.D., Vanderbilt University medical department, Nashville, Tenn., 1891, was assassinated at his home, Decherd, Tenn., October 1.

Lawrence M. Gould, M.D., Harvard University, 1877, died suddenly at Portland, Me., while on a vacation. He was practicing at Hyde Park, Mass.

Samuel Pangburn, M.D., Ohio Medical College of Cincinnati, 1866, died at his home in Maysville, Ky., October 4, of apoplexy, aged 62 years.

Charles Y. Swan, M.D., College of Physicians and Surgeons, New York, 1856, died at Morristown, N. J., October 8, aged 65 years.

Thomas A. Atchison, M.D., one of the old and esteemed physicians and citizens of Nashville, Tenn., died October 2, aged 83.

Wellington Mason, M.D., University of Pennsylvania, 1898, died at Philadelphia, September 30, of appendicitis, aged 35 years.

Charles C. Crawl, M.D., Omaha Medical College, 1896, died at Randolph, Neb., October 7, of injuries received in a runaway.

William Webb Browning, M.D., Bellevue Hospital Medical College, 1884, died October 3 at Brooklyn, N. Y., aged 48 years.

Ralph J. Wenner, M.D., University of Wooster, 1892, died at his home in Cleveland, Ohio, October 9, of typhoid fever.

A. J. Welfley, M.D., Jefferson Medical College, 1896, died at Berlin, Pa., October 3, of pulmonary tuberculosis.

Junius N. Bragg, M.D., Tulane University, 1861, died at his home, Camden, Ark., October 2, aged 60 years.

Edward Richardson, M.D., Transylvania University, 1858, died October 9, at Louisville, Ky., aged 70 years.

Alfred T. Brosseau, M.D., University of Victoria College, 1867, died October 9, at Montreal, Que.

R. T. Mead, M.D., Albany Medical College, 1863, died at his home in Manistee, Mich., October 10.

Frank W. Crane, M.D., Buffalo University, 1868, died at Corfu, N. Y., aged 65.

Therapeutics.

TUBERCULOSIS.

TURPENTIN IN TUBERCULOSIS.

℞.	Terebinthinæ	ʒiv	16
	Cretæ preparatæ	ʒii	8
	Sacch. albi	ʒii	8
	Pulv. acaciæ	ʒii	8
	Aquæ cinnamomi, q. s. ad	℥iv	128

M. Ft. emulsio. Sig. Shake. One dessertspoonful three times a day on an empty stomach. —*Med. Record.*

TUBERCULOUS COUGH.

℞.	Syrupi pruni virginianæ		
	Tinct. lobeliæ		
	Tinct. sanguinariæ		
	Syrupi ipecacuanhæ, āā	ʒii	8
	Tinct. capsici	ʒi	4

M. Sig. One teaspoonful every two hours.

Med. Summary.

SURGICAL TUBERCULOSIS OF JOINTS.

℞.	Formalin	m. lxxv	5
	Glycerini, q. s. ad	℥iii	96

M. Sig. As an injection in tuberculous joints.

Hahn recommends the above as surpassing iodoform in such cases. He advises that the pus be evacuated by syringing, the cavity washed and one-third as much of the solution be injected as pus evacuated. It may be repeated in two weeks if necessary. —*Denver Med. Times.*

TREATMENT OF TUBERCULOSIS.

Knopf's outline of treatment in the "Twentieth Century Practice of Medicine" is as follows:

HYGIENIC TREATMENT.

a. Sanatorium treatment.

b. Home treatment, such as choosing for the patient the largest, pleasantest, sunniest, best-ventilated rooms. There should be no carpets, heavy curtains or superfluous furniture.

c. Aerotherapy and pneumotherapy.

d. Solar therapy. Exposure of the whole body in its nude state to the air and the rays of the sun is very favorable to metabolism and oxygenation and renders the cutaneous system less susceptible to the changes.

e. Attention to dress and personal hygiene.

f. Hydrotherapy.

g. Dietetic treatment.

h. Medicinal and symptomatic treatment.

SYSTEMIC TREATMENT.

Marfan prescribes cod-liver oil, phosphorus and creosote as follows:

℞.	Olei morrhuæ	℥xss	336
	Creosoti	℥ss	16
	Phosphori, 1/1000	℥i	32

M. Sig. One dessertspoonful after each meal.

This combination is very efficacious if well borne.

—*American Text-Book of Therapeutics.*

Hare says: 1. Never use cod-liver oil when the disease is past the primary stage unless fibrous changes are going on and the changes are slow. 2. The use of it during the rapid degenerative changes is harmful, as it is of no service, disorders digestion and destroys the appetite.

℞.	Creosoti carbonatis		
	Ammonii sulphoichthyolatis, āā	ʒiv	16
	Glycerini	℥i	32
	Aquæ menthæ piperitæ	ʒiiss	10

M. Sig. Ten to thirty drops three times a day.

—Goldmann.

Landouzy states that benefit is derived from saline injections subcutaneously by reason of reflex action on the nervous system. The formula he uses is as follows, given in small doses:

℞.	Sodii phosphatis	gr. lxxv	5
	Potassii phosphatis	gr. lxxv	5
	Sodii chloridi	gr. lx	4
	Sodii sulphatis	ʒv	20
	Aquæ destil	℥vi	192

M. Sig. To be used hypodermically in quantity desired.

℞.	Olei morrhuæ	℥vi	192
	Glycerini puri	℥i	32
	Tinct. quillajæ (soap-bark)	ʒiss	6
	Aquæ lauracerosi	ʒi	4

M. Ft. [illegible] one tablespoonful two or three times [illegible] —*Med. News*

℞.	Olei morrhuæ	℥xii	384	
	Syrupi tolutani	℥vi	192	
	Tinct. tolutani	gtt. xii		75
	Olei caryophylli	gtt. ii		12

M. Sig. Shake well and take a tablespoonful two or three times a day.

—Bricemoret: *Twentieth Century Practice of Medicine.*

℞.	Olei olivæ	℥x	300	
	Creosoti	℥i	32	
	Vini opii	m. xlv	3	

M. Sig. Two tablespoonfuls as an enema, mixed with the yolk of an egg and added to a tumblerful of water.

—*Pacific Medical Journal.*

Iodoform is recommended by such men as Flick, Ransom and De Renzi.

℞.	Europhen	ʒi	4	
	Olei anisi	ʒi	4	
	Olei rosæ	m. i		06
	Olei olivæ	℥iiss	80	

M. Sig. One to two teaspoonfuls rubbed into armpits or inner parts of the thighs once or twice daily.

Flick thinks europhen combined in this way with olive oil evolves nascent iodin. —*Progressive Medicine.*

℞.	Iodoformi	gr. iss		09
	Codeinæ	gr. 1/3		02
	Ext. cascaræ sagradæ	gr. 1/2		03

M. Ft. pil. No. i. Sig. One pill three times a day.

—Knopf.

℞.	Sodii cinnamatis (aqueous 5 per cent. sol.)	℥i	32	

Sig. Inject four or five drops into the gluteal region, avoiding the region of the gluteal vessels and the sciatic nerve. Repeat the injection every other day.

Oppression, chilly sensation and headache are indications for reducing the size of the dose.

℞.	Pulv. acidi cinnamici	gr. vii		5
	Olei amygdalæ dulcis	ʒiiss	10	
	Yolk of egg	No. i		
	Sodii chloridi, 7/1000, q. s. ad	℥iiiss	112	

M. Ft. emulsio. Sig. To be used as an intravenous injection into the fold of the elbow. Four to six drops to be used daily. —Landauer: *Riforma Med.*

He recommends a dose of 1/60 grain of cinnamic acid gradually increased to 1/30 every second or third day. He claims that cinnamic acid produces intense phagocytosis, and causes a sclerotic condition in the tissues in the neighborhood of the morbid growth.

℞.	Guaiacol carbonatis	gr. xv.	1	
	Strychninæ sulphatis	gr. i		06
	Resinæ capsici	gr. iii		20
	Ammonii chloridi			
	Quininæ bisulphatis, āā	gr. xxx	2	

M. Ft. capsulæ no. xxx. Sig. One every four hours.

—Stewart: *Internat. Med. Mag.*

Dr. Laborde, of Paris, calls attention to the importance of conserving the digestive capacity of the patients and recommends the following to be given hypodermically:

R.	Guaiacol	ʒv	20	
	Eucalyptol	ʒiiss	10	
	Sparteinæ sulphatis	gr. xv	1	
	Olei amygdalæ dulcis, q. s. ad	℥vi	192	

M. Sig. Begin with eight drops and inject while the patient is in bed; gradually increase the amount of the injection to six or seven cubic centimeters—ninety to one hundred minims.

—*Therapeutic Gazette.*

Gimbert used the following hypodermatically:

R.	Creosoti	m. xv	1	
	Olei amygdalæ dulcis	ʒiiiss	14	

M. Sig. Inject drop by drop intermitting occasionally to avoid pain until the full amount is injected.

The virtue of creosote depends upon its purity and especially on its freedom from carbolic acid and pyrogallol. Pure creosote has an oleaginous appearance, a strong resinous odor, a caustic taste, is slightly soluble in water, very soluble in alcohol and oils. The true virtue of creosote is chiefly nutritional. —Whittaker.

℞.	Ichthyolici			
	Aquæ destil. āā	ʒv	20	

M. Sig. Begin with four drops three times daily before meals and increase to forty drops. Children between 5 and 12 years take one half the dose. A draught of black coffee after taking it will disguise the bad taste. Cohn reports nothing but good effects from its use.

—*American Text-Book of Therapeutics.*

℞.	Creosoti	ʒss to ʒi	2-4	
	Olei amygdalæ dulcis	ʒvi	24	
	Yolk of egg, No. 1			
	Aquæ destil	℥viss	208	

M. First dissolving the creosote in the oil and subsequently emulsify with the yolk of egg. Sig. Inject per rectum at night.

The oil of sweet almonds is preferred, because it does not produce colic and because it contains matters that act as adjuvants in alimentation.

—Vopelius: *Text-Book of Applied Therapeutics.*

CREOSOTE IN THE FORM OF A WINE.

℞.	Creosoti	℥ss	16	
	Tinct. gentianæ comp.	℥i	32	
	Alcoholis	℥iii	96	
	Vin. xerici, q. s. ad	Oii	1024	

M. Sig. One dessertspoonful three times a day, provided the temperature is not too high. —*Les Nouveaux Remèdes.*

℞.	Creosoti	m. xxv	1	5
	Tinct. gentianæ	℥ss	16	
	Spts. vini rect	ʒvi	24	
	Vin. xerici q. s. ad	℥vi	192	

M. Sig. One tablespoonful three times a day.

℞.	Argenti nitratis (2.5 per cent. sol.)	℥i	32	

Sig. Inject four to seven drops in the neck over the course of the vagi, on the same side as the diseased lung. Repeat the injection once a week only.

—Thos. J. Mays: *Med. and Surg. Reporter*

R.	Iodoformi	gr. xxiv	1	5
	Creosoti	m. iv		25
	Ol. eucalypti	m. viii		5
	Chloroformi	m. xlv	3	
	Alcoholis			
	Etheris, āā q. s. ad	℥ss	16	

M. Sig. Five to twenty drops to be used in an inhaler every three hours. —Wm. Perry Watson.

INHALATION OF FORMALIN.

℞.	Formalin	ʒi	4	
	Glycerini	ʒiv	16	
	Aquæ	℥v	160	

M. Sig. Use in the inhaler four or five times in twenty-four hours. —Green: *N. Y. Lancet.*

It must be kept in mind that formalin is only 40 per cent. strength of formaldehyde.

When there is great exhaustion and the sputum clings about the throat and mouth, Foxwell recommends the following:

℞.	Spts. etheris			
	Spts. ammoniæ arom	m. xxx	2	
	Tinct. aurantii	m. x		66
	Aquæ camphoræ, q. s. ad	℥i	32	

M. Sig. One tablespoonful to be taken every six, four or two hours. —*Phil. Med. Jour.*

PURIFICATION OF AIR.

To purify the air in a room occupied by a phthisical patient, use the following:

R.	Guaiacoli	ʒiiss	10	
	Acidi carbolici	ʒiss	6	
	Eucalyptol	ʒii	8	
	Menthol	ʒi	4	
	Thymol			
	Olei caryophylli, āā	ʒss	2	
	Alcoholis—pure	℥vi	192	

M. Sig. Spray frequently in the room.

—*Louisville Med. Monthly.*

NIGHT SWEATS.

℞.	Agaricin	gr. viiss		5
	Pulv. opii et ipecacuanhæ	gr. iii		48
	Pulv. althææ			
	Mucil. acaciæ, āā	ʒi	4	

M. Ft. pilula No. 1. Sig. At bedtime for night sweats.

℞.	Zinci oxidi	gr. iiiss		20
	Extracti belladonnæ	gr. ⅛		008
	Extracti hyoscyami	gr. i		06

M. Ft. Pilula No. 1. Sig. At bedtime for night sweats.
—Whitla.

LOTION FOR NIGHT-SWEATS OF TUBERCOLOSIS.

℞.	Balsam Peru	gr. xx	1	33
	Acidi formici	ʒiss	6	
	Chloral hydratis	ʒiss	6	
	Acidi trichloracetici	m. xx	1	33
	Alcoholis—absolute	℥iv	128	

M. Sig. Apply locally as a lotion in night-sweats of tuberculosis. —Kohnstamm.

Dr. Burghart *(Med. Archives)* seldom resorts to internal medication, but occasionally uses camphoric acid. He advises cool bathing at night with plain or acidulated water or alcohol. Mentholated alcohol 1 to 2 per cent. is recommended.

℞.	Atropinæ sulphatis	gr. i		06
	Aquæ destil	℥i	32	

M. Sig. Five drops in a teaspoonful of water at bedtime.

Ringer and Brunton seem to favor atropin as the remedy for night-sweats.

℞.	Acidi camphorici	ʒii	8

Ft. chartulæ No. viii. Sig. One powder dry on the tongue at bedtime.

THE COUGH.

℞.	Codeinæ sulphatis	gr. vii		5
	Acidi sulphurici dil	ʒiss	6	
	Glycerin.			
	Aquæ laurocerasi, āā	℥i	32	
	Syr. pruni virginianæ	℥ii	64	
	Syr. tolutani, q. s. ad	℥vi	192	

M. Sig. One teaspoonful whenever the cough becomes distressing; more than six teaspoonfuls should not be given in twenty-four hours. *—Prog. Méd.*

℞.	Codeinæ	gr. iv		25
	Acidi hydrochlorici dil	m. xxx	2	
	Spts. chloroformi	ʒiss	6	
	Syrupi limonis	℥i	32	
	Aquæ destil., q. s. ad	℥iv	128	

M. Sig. One teaspoonful as occasion demands.—Murrell.

R.	Terpin hydratis	gr. xv	1	
	Codeinæ	gr. iss		09
	Extracti belladonnæ	gr. iss		09
	Extracti hyoscyami	gr. ¾		045

M. Ft. pil. No. x. Sig. One pill four times daily between meals. *—Jour. des. Practiciens.*

℞.	Acidi hydrocyanici dil.			
	Tinct. belladonnæ, āā	m. xxxvi	2	4
	Ext. opii liquidi	m. lxiv	4	25
	Syrupi limonis	℥ss	16	
	mucil. acaciæ, q. s. ad	℥iss	48	

M. Ft. syrupus. Sig. One teaspoonful for the cough and repeat in three or four hours if necessary.
—Manual of Med. Treatment.

THE HEMOPTYSIS.

R.	Acidi gallici	gr. lxxx	5	33
	Glycerini	ʒiv	16	
	Spts. vini rectificati, q. s. ad	℥ii	64	

M. Sig. Two teaspoonfuls in a tablespoonful of iced water every hour or two, then less frequently. —Yeo.

℞.	Ext. hamamelidis fluidi	℥i	32

Sig. Twenty drops every two hours.

℞.	Potassii bromidi	ʒiiss	10
	Tinct. digitalis alc	m. xlv	3
	Aquæ	℥viss	208

M. Sig. Two tablespoonfuls per day in cases of hemorrhage with excitement. —Whittaker.

Opinions differ as to the propriety of administering digitalis for hemoptysis, on account of increasing the contractility of the heart and increasing vascular tension.

℞.	Tinct. iodi	ʒi	4
	Camphoræ pulv.	℥iiss	80
	Essential oil of tar	℥iiss	80
	Spts. etheris compositi	℥ss	16

M. Use in an inhaler and take from five to twenty inhalations at a time and repeat three or four times a day.
—M. E. Chartier.

R.	Sodii chloridi	℥ss	16

Sig. Give two or three teaspoonfuls in as small amount of water as possible.

Skoda claims that the effect is reflex, through irritation on the gastric mucous membrane and contracts the small pulmonary arteries.

Cold applied to the chest and the use of morphin or codein is indicated in severe pulmonary hemorrhages.

℞.	Ext. ergotæ fluidi	℥i	32

Sig. One half to one teaspoonful once every two hours if necessary.

FEVER OF PHTHISIS.

℞.	Quininæ sulphatis	gr. xxiv	1	50
	Pulv. digitalis	gr. xii		75
	Pulv. ipecacuanhæ			
	Pulv. opii, āā	gr. vi		36
	Extracti glycerrhizæ, q. s.			

M. Ft. pil. No. xxiv. Sig. One pill three times a day.
—Heim: *Manual of Ther.*

DIARRHEA OF PHTHISIS IN ADVANCED CASES.

℞.	Extracti coto fluidi		
	Tinct. cardamomi comp. āā	ʒi	4

Mix and triturate slowly with:

Mucil. acaciæ	ʒiii	12
Syrupi simplicis	ʒii	8
Aquæ, q. s. ad	℥vi	192

M. Sig. One tablespoonful at a time and repeat as necessary.
—Burney Yeo.

℞.	Extracti opii	gr. iss		1
	Syrupi aurantii	ʒv	20	
	Infusi calumbæ, q. s. ad	℥v	160	

M. Sig. One tablespoonful every two hours.

℞.	Salol	gr. xxx	2
	Bismuth subnitratis	ʒi	4

M. Ft. chartulæ No. vi. Sig. One powder every three or four hours. Regulate the diet or adopt a milk diet.

ANOREXIA—LOSS OF APPETITE.

℞.	Tinct nucis vomicæ	ʒii	8
	Tinct. cinchonæ comp.		
	Tinct. cardamomi comp., āā	℥i	32
	Tinct. gentianæ comp., q. s. ad	℥iv	128

M. Sig. One teaspoonful in water before each meal.

VOMITING OF PHTHISIS.

℞.	Bismuth subnitratis	gr. x		66
	Tincturæ opii	m. ii		12
	Magnesii carbonatis	gr. v		33
	Misturæ tragacanthæ	ʒii	8	
	Infusi aurantii, q. s. ad	℥i	32	

M. Sig. Shake at one dose. —Yeo.

BEDSORES IN TUBERCULOSIS.

℞.	Alcoholis	℥i	32
	Aquæ, q. s. ad	℥iv	128

M. Sig. Harden the skin by bathing the parts with the above solution.

THE ANEMIA.

℞.	Ferri sulphatis—exsic	ʒi	4	
	Sodii carbonatis—exsic	ʒi	4	
	Acidi arsenosi	gr. i		06

M. Ft. capsulæ No. xxx. Sig. One capsule after each meal three times a day.

Medicolegal.

Baking Powder Law Constitutional.—Chapter 245 of the general laws of Michigan of 1899 requires all manufacturers and sellers of all compounds or mixtures intended for use as a baking powder to affix a label to every box or can, containing the name and residence of the manufacturer, and the words, "This baking powder is composed of the following ingredients," "and none other"—following the names of the ingredients. This chapter is an amendment of an act of 1889, which required such a label to be put upon boxes and cans containing alum, in any form and shape, as a constitutent. And, as the Supreme Court of Michigan held the earlier statute constitutional, so now does it hold, in the case of State vs. Sherod, the enactment of 1899 valid, declaring that it is neither an infringement upon private rights nor class legislation.

Record Warranting Exhibition of Foot to Jury.—A young farmer had his foot caught in a hole in a depot platform and severely injured as he was attempting to board a train which was just at that moment moved a couple of car lengths. His ankle was dislocated, and its ligaments torn. His toes were turned around, and the larger bone of his ankle was pushed forward. It was also proved that his ankle would be permanently stiff. The jury awarded him $2000 damages. Taken to the Court of Civil Appeals of Texas, one of the points argued, Texas Midland Railroad vs. Brown, was that it was error, in the trial of the cause, to permit the party to exhibit his injured foot to the jury. But, it appearing from the bill of exceptions, and also from the statement of facts, that the condition of the foot was fully shown by the evidence, the court holds that the objection to the exhibition of the foot on the ground that it could not be set up in the record was not well taken. The Supreme Court of Texas has denied a writ of error.

Four Thousand Dollars for Colored Boy's Arm.—In the case of Jackson vs. the St. Louis Southwestern Railway Company, where it says that there is no law authorizing the taking off of a boy's arm at the shoulder as a penalty for trespassing on railroad or any other property, the Supreme Court of Louisiana holds that four thousand dollars is not an excessive award of damages for the loss of his left arm by a colored boy fourteen years of age. It says of the boy in question that he was poor, black, illegitimate, and ignorant, and when injured was receiving 75 cents a week for working about a negro barber shop, to which were added his earnings—probably a few dollars a week—as a bootblack. Continuing, the supreme court says that it seems to it that, being about as badly situated as a boy of fourteen who is not an invalid or a criminal could be, he was particularly in need of the arm of which he had been deprived; for that and the other arm were about all that he had to depend upon to help him through in the long struggle which lay before him, and which is hard enough even for those who are better situated and have both arms and hands. Hence, it holds the amount specified not excessive compensation for the boy.

Allowance for Nursing of Minor in Injury Case.—In Texas & Pacific Railway Company vs. Short, an action brought by the latter party to recover damages for the loss of his minor son's services, and for expenses incurred for nursing, medicines, and doctor's bills because of the boy's leg being broken and he otherwise injured by the alleged negligence of the railway company, objection was made to the trial judge's permitting the father to prove the price he contracted to pay for the nursing of his son. But the Court of Civil Appeals of Texas declares that it can not say that this was error. Yet, in such a case, it would be the duty of the court, if requested to do so, it holds, to charge the jury that the reasonable value of the services rendered, and not the contract price, would be the true measure of damages. In determining the reasonable value of the services, it then goes on to say, all the circumstances under which the services were rendered should be taken into consideration. And it holds that the father, if entitled to recover at all, could recover for the services of himself, of his wife, and of his minor son and daughter in nursing the injured boy. To this it adds that, while it is not prepared to say that the father could not recover therefor without so doing, under such a claim of damages as above mentioned, it would suggest that it would be better practice for the petition to allege that his minor son and daughter assisted him in nursing their brother.

A Crime Against Nature.—The Supreme Court of Louisiana says, in State vs. Vicknair, that it is incomprehensible why, in the common-law courts, the use of the mouth should not have been considered as much against nature as though the act were committed per anum. But the "crime against nature" being a common-law offense, made a statutory offense in Louisiana, and the definition of which, as known to the common law, having been adopted by statute, it was competent for the legislature, it holds, to amend the existing law, denouncing and defining the crime, by declaring, as was done by the statute of 1896, that a particular act, not otherwise so considered, as for example committing the offense "with the mouth," should, as well as sodomy, constitute said crime; though, no doubt, it says it must appear that the sexual organ of the one party or the other, either the agent or the pathic, was used. The crime here considered, the court goes on to say, is generally regarded as being governed in some respects by the principles of law which are applicable to rape. But it thinks that it can be readily understood why proof of emission might be considered necessary to establish the latter crime, and yet not be necessary to establish the former. And so, while the English courts and those of this country have been divided in opinion as to whether, in regard to rape, such proof was necessary, under the common law, the court holds here that, particularly as the enormity of this crime against nature consists solely in its utter bestiality, proof of emisso seminis is not necessary to conviction in a prosecution for it, as denounced by the statute of 1896; nor does it matter, in the case of an adult, whether he be charged as agent or pathic, so long as the particular act charged brings it within the definition of the statute.

Charges by Student Makes Practice Unlawful.—In Arkansas there is a statute which declares that it shall be unlawful for any person to practice or attempt to practice dentistry or dental surgery, in the state of Arkansas, without first having received a certificate from the board of dental examiners: provided, this shall not be construed as preventing any regular licensed physician from extracting teeth, nor to prevent any other person from extracting teeth, when no charge is made therefor by such persons. From this language, the Supreme Court of Arkansas holds, in the case of State vs. Reed, it is impossible to escape the conclusion that the performance of dental work, and charging and receiving pay therefor, is practicing dentistry. And it condemns the theory of the trial court in this case, which seemed to be that, notwithstanding this, yet, as the party accused of practicing dentistry without first obtaining a certificate from the board of dental examiners was, when he did the work in question, a mere student, and doing his work under the direction of a licensed dentist, he was not answerable to the law on the subject. It must be noted, the supreme court says, that if this is any defense at all, on which point it expresses no opinion, but makes this suggestion, while this relation existed in this case between the accused and a regular practicing dentist, so far as the dental work in question was concerned, yet the charge for the same was not made in the name of the licensed dentist, nor was the pay received by him. The charge was made by the accused for himself, independent of his preceptor, and so was the pay received by him. Under such circumstances, the supreme court holds, it was error for the trial judge to instruct the jury to the effect that if they believed that the accused was in he office of the regular dentist mentioned, and was working under the latter's directions and advice, he should be acquitted.

Postmaster General's Power to Prevent Fraud.—In the case of the American School of Magnetic Healing vs. McAnnutly, the United States Circuit Court was asked to restrain the postmaster at Nevada, Mo., from obeying a certain order issued by the postmaster general. That order directed the Nevada postmaster to return to the senders thereof all letters, whether registered or not, which arrived at his office addressed to the complainants in this suit, and to stamp thereon the word "Fraudulent," or to transmit said letters to the dead-letter office at Washington, D. C., to be disposed of as other dead matter, under the laws relating thereto, when there was nothing on said letters to indicate who were the senders of the same. This order contained a finding by the postmaster general, in accordance with the acts of congress giving him his authority in the matter, that it had been made to appear upon evidence satisfactory to him that the American School of Magnetic Healing, S. A. Weltmer, the president thereof, and J. H. Kelly, its secretary, were engaged at Nevada, Mo., in conducting a scheme or device for obtaining money through the mails by means of false and fraudulent pretenses, representations, and promises. Under these circumstances, the court holds that it could not lawfully grant the temporary injunction prayed for. It says that it is manifest from an inspection of the United States statutes bearing on the subject that congress has in express terms conferred upon the postmaster general the power to prohibit the delivery of any and all mail matter to a person whom that officer, after a due investigation, finds to be engaged in conducting through the mails either a lottery or a scheme to obtain money by false and fraudulent pretenses. Nor does the court consider the statute unconstitutional. It says that it is hardly necessary to observe that, if the right to use the mails is a statutory privilege, and not property, within the meaning of the fifth amendment to the federal constitution providing that no person shall be deprived of his property without due process of law, as is held, then no fault can be found with the statute here under consideration, because it devolves on the postmaster general the duty of ascertaining by satisfactory evidence if one is using the mails to defraud, and make his right to use the mails dependent upon that finding. Neither does it think that the courts should interfere on the ground that the power conferred on the postmaster general is of an arbitrary character, and, if erroneously exercised at any time, might occasion great loss and inconvenience to the citizen.

Rape by Boy Under Fourteen Years of Age.—The Supreme Court of Florida has reversed a conviction of rape, in Chism vs. State, where the death sentence was imposed. The testimony for the accused tended to show that he was under the age of 14 years at the time the offense was alleged to have been committed. And the court holds that it was error to instruct the jury that, if they believed from the evidence that the accused was under the age of 14 years a presumption arose that he was incapable of committing the crime, and that this presumption continued until the state by competent testimony overcame it, and established capacity by showing that he had reached the age of puberty to the exclusion and beyond a reasonable doubt. It says that the rule of the common law is that a boy under the age of 14 years is conclusively presumed to be incapable of committing the crime of rape; and this rule, it holds, is still in force in the state of Florida. All the American courts, without exception, it says, admit that, at common law as administered in England, a boy under 14 years old could not commit the crime of rape, not because he had not then arrived at the age of discretion to discern right from wrong, but because he was deemed to be physically incapable of committing the particular crime of rape. But several American courts, it continues, have refused to apply absolutely the common-law rule in their respective jurisdictions, on the theory, it would appear from the reasoning employed, that, as the rule originated in England under climatic and other conditions surrounding the English people showing that puberty did not develop in males before the age of 14, it should not be rigidly applied here, where experience frequently shows a development of puberal capacity before that time. In other words, the common-law rule, according to this view, is deemed sufficiently flexible to admit of application to actual facts as they may be shown to exist, and so it is laid down that before the age of 14 a presumption exists of incapacity, but that it may be overcome by proof. This doctrine impresses the court with merit, and it says that it is not at all surprising that some of the courts in this country have adopted it. Yet, where, as in Florida, the common law of England in relation to crimes has been adopted by statute, and there is no enactment on the subject of the age under which a male can not commit the crime of rape, the courts, the Supreme Court of Florida holds, are not authorized to set the common-law rule aside for the reason that the climatic or racial conditions of the people differ from those of England, where the law was developed. If such conditions demand a change of the common law, it is for the legislature to make it and not the courts.

Societies.

Coming Meetings.

American Public Health Association, Indianapolis, Ind., Oct. 22-26.
Medical Society of Virginia, Charlottesville, Oct. 23.
Southern Surgical and Gynecological Association, Atlanta, Ga., Nov. 13-15.
Oklahoma Territory Medical Society, Oklahoma City, Nov. 15.
The Tri-State Medical Association of Mississippi, Arkansas and Tennessee, Memphis, Nov. 13-15.
Indian Territory Medical Association, Muscogee, Dec. 4-5.

The Fresno County (Cal.) Medical Society met at Fresno, October 2. Dr. J. H. Parseghian read a paper on the "Treatment of Rheumatism."

The Springfield (Ohio) Academy of Medicine recently held its second meeting of the season, when Dr. M. V. Patton read an article on "Medical Ethics." Dr. Louis L. Syman presented a case of musical heart.

The Columbus (O.) Academy of Medicine, at its session, October 1, listened to and discussed papers by Dr. Herbert M. Platter, on "The Recent Epidemic of Smallpox in Columbus" and "The Diagnosis of Tubal Pregnancy Before Rupture."

The Cambridge (Mass.) Medical Improvement Society met for its regular monthly session, September 24, and listened to a paper by Dr. Joseph S. Lockhart on "Infantile Hemiplegia" and a report by Dr. Walter J. La Marche of two interesting abdominal cases.

The Orange County (Cal.) Medical Association held its October meeting on October 2, at Westminster. Dr. H. S. Gordon presented a paper on "Pelvic Inflammation"; and Dr. F. E. Wilson one on the "Microscope in Diagnosis." The next meeting will be held in Santa Ana.

The Fairfield County (Conn.) Medical Society held its one hundred and eighth semi-annual meeting at Westport Sanatorium October 9. Papers were read by Dr. William B. Coley, New York City, on "Female Hernia," and Dr. J. Murray Johnson, Bridgeport, on "Pulmonary Surgery."

The Clinical Society of Washington, D.C., met after the summer vacation, on October 8, and elected the following officers: Dr. Charles C. Marbury, president; Dr. Duff G. Lewis, vice-president; and Dr. J. Carlisle De Vries, secretary and treasurer. Dr. Wallace Johnson read a paper on "Clinical Pathology," which was discussed by many of those present.

The Clinton County (Ia.) Medical Society held its quarterly meeting at Clinton, October 2. A paper was read by Dr. Harry R. Reynolds on "Specific Tertiary Lesions." A paper was also presented by Dr. Robert E. Everhart on "Rheumatism," and Dr. John F. H. Sugg opened a discussion on the "X-Ray in its Medico-Legal Relations."

The Lucas County (O.) Medical Society met at Toledo, October 5. Dr. Clarey E. Stewart read a paper entitled "The Doctor," and Jesse L. Baird read a paper on "Mercurials—Some of their Attributes and Uses." A general discussion on "Should Chloroform and the Obstetric Forceps be Used More Freqeuntly in Labor Cases?" then took place, which was opened by Drs. Watson, Gillette and Strausz.

The Madison County (Ind.) Medical Society held its quarterly meeting at Pendleton, October 2. Papers were read by Dr. John B. Fattic, Anderson, on "Treatment of Electrical

Injuries"; Dr. Anthony E. Otto, Alexandria, on "Hay-Fever and its Treatment," and Dr. Frank P. Nourse, Alexandria, on "Pelvic Inflammation." Dr. John W. Cook, Pendleton, gave some reminiscences of a recent trip abroad.

The Denver and Arapahoe (Colo.) Medical Society met in Denver, October 9. Papers were read by Dr. Francis H. McNaught on "The Treatment of Puerperal Infection"; by Dr. Horace G. Wetherillon, "The Prevention of Puerperal Septicemia," and by Dr. Charles A. Powers, on "The Surgical Importance of Apparently Simple Carbuncles and Furuncles of the Upper Lip" and "Abdominal Testicular Ectopia, Associated with Inguinal Hernia-Management."

The Thurber Medical Association held its 47th annual meeting at Milford, Mass., October 4. The officers elected for the ensuing year were: President, Dr. Nathaniel C. B. Haviland, Holliston; vice-president, Dr. Ralph C. Fish, Hopedale; secretary, Dr. John M. French, Milford; treasurer, Dr. Le Grand Blake, Milford. The prize for the best paper read during the year was voted to Dr. John M. French, Milford, for his paper on "The Treatment of Acute Croupous Pneumonia." The anniversary address was delivered by Dr. Wilfred W. Browne, Blackstone, on "The Lights and Shadows of a Physician's Life."

The Southwestern Tri-State Medical Association, composed of physicians from Texas, Oklahoma and Indian Territory was organized at Dallas, Tex., October 1. Dr. Vene P. Armstrong, Dallas, was elected temporary chairman, and Dr. John O. McReynolds, Jr., Dallas, temporary secretary. The code of ethics of the American Medical Association was adopted. The following officers were elected: Dr. Henry K. Leake, president; Dr. J. W. Lowe, Holdenville, I. T., first vice-president; Dr. Charles R. Hume, Anadarko, Okla., second vice-president; Dr. Hugh L. McNew, Honey Grove, Tex., third vice-president; and Dr. Samuel E. Milliken, Dallas, secretary and treasurer.

Mississippi Valley Medical Association.

Twenty-sixth Annual Meeting, held at Asheville, N. C., October 9-11, 1900.

President Dr. Harold N. Moyer, Chicago, in the chair.

Addresses of Welcome on behalf of the city, state and local profession were delivered by Hon. Theo. F. Davidson and Dr. John H. Williams.

PRESIDENTIAL ADDRESS.

Dr. Moyer referred to matters of general interest to the profession. He alluded to an address which was delivered at the recent International Medical Congress by a distinguished American colleague, who saw fit to discuss the old code question. The speaker (Dr. Moyer,) thought it unfortunate that this subject, long since dead, but not buried, should be embalmed in the records of that Congress. The medical profession of America does not need an apologist for its standard of medical education to-day, and in support of this contention the speaker quoted from an editorial in the *London Lancet* of comparatively recent date.

As to medical societies, there can not be too many of them. In no other country are they so numerous as in America. Abroad these societies are for the few; in this country they are for the many, and it is to their collective voice, speaking in no uncertain tones, that the profession owes the uplift of medical education.

The speaker then discussed the relation of the profession to the law. The passage of medical-practice acts has been urged by the medical profession, and physicians have been distinctly misunderstood in their attitude toward such legislation. Legislators feel in some way that the medical profession wishes to put a fence around the practice of medicine and that physicians, being on the inside, may fatten on it. This is not true. Physicians do not urge the passage of medical-practice acts for their personal aggrandizement, but simply to protect the people, to prevent the illegal practice of medicine by unqualified persons and by quacks.

If anything can be said in criticism of the medical profession in this country, it is the overweening inclination toward specialism. The physician should spend several years in general practice before adopting a specialty. Specialism has wrought great good for medicine, but the profession should see that it is not overdone. If a physician desires to acquire a broad general culture, it can only come from general practice. The selection of a specialty should, like matrimony, come naturally, and without being forced.

ABDOMINAL VERSUS VAGINAL HYSTERECTOMY.

Dr. H. O. Walker, Detroit, Mich., read a paper on this subject. The question of the best approach surgically to the uterus and adnexa has not been settled, judging from the amount of discussion of late on this topic. Cancer of the uterus is not an infrequent cause of death in women. The recurrence of cancer of the uterus is very important and is immediately connected with the method of its removal. The manner of recurrence of cervical cancer is either by extension into the broad ligaments, vagina downward, and other contiguous parts, as the bladder and rectum, and occasionally the body of the uterus; or by metatases, through the lymph-channels and by distant direct implantation. The surgeon is to be governed by the method of operation that will offer the best advantages in avoiding a recurrence of the disease, and in order to illustrate the two routes he reported two interesting cases, in one of which he could not have operated as successfully by the vagina as through the abdomen. In the other case the vaginal route was indicated, and this operation was done. All things being equal, the abdominal route offers a more complete hysterectomy than the vaginal method. 1. The surgeon is better able to see what he is doing. 2. He can control hemorrhage more efficiently and completely than by the vaginal route, where he is working in a dark cavity. There is less liability of slipping of the ligatures, and if they should slip, they are reached more easily than by the vaginal section. 3. The danger to the ureters is minimized, and, if injured, the opportunity for their repair is much better; while if they are injured by the vaginal route, the surgeon would have to do an abdominal section to effect repair. 4. The prevention of sepsis is more certain by the abdominal than by the vaginal route, aided, in the former instance, by the Trendelenburg position, which gives opportunity for full protection of the intestines and peritoneum; while in the latter the opportunity for protection is limited, as it is an impossibility to secure perfect asepsis in the vagina where there has been a long-standing infective disease.

CANCER OF THE UTERUS AND ITS TREATMENT.

Dr. R. S. Sutton, Pittsburg, contributed this paper. Cancer operations should not be recommended as curative, but as palliative and therefore useful. Total vaginal extirpation of the uterus at or after time of climacteric, should find a place as prophylactic treatment against cancerous disease. This paper consisted of a compact review of the anatomy, pathology, diagnosis and present method of treatment.

The author expressed the opinion that treatment for existing cancer of the uterus had probably reached its complete evolution. In view of the ultimate results of this treatment, which he heartily endorses, because there is none other known to take its place, he asks the question, cui bono?

He then discussed the question of prophylaxis, and showed that the average age of his patients operated on was 43 years and a fraction, and claims that if these patients had all been subjected to total vaginal extirpation, at the average age of 40 years, all of them would have escaped cancer of the uterus; that according to his own statistics, but 4 per cent. of the cases would have died; whereas, nearly 100 per cent. of the cases did die, within a period of two or three years, after operations for cancer.

He urged greater attention to the early repair of lacerations of the cervix, and a more painstaking observation, and consideration by physicians at large of that train of symptoms preceding, and leading up to, the development of cancer of the uterus. He unequivocally recommends radical surgical treatment in all such cases, and clearly announces that if we are to diminish the number of uterine cancer cases, and consequent mortality in the future, it must be done in forestalling the disease.

In the discussion, Dr. Edward W. Lee, St. Louis, favored the abdominal route in the majority of cases, for the reason that it is easier of performance; the surgeon can see what he is doing; he has a more perfect control of the tissues, and can do a more thorough operation. The only condition in which he believes the vaginal operation is justified is in cases of small, uncomplicated fibroid tumors of the uterus which can be easily shelled out.

Dr. Chauncey D. Palmer, Cincinnati, said that until within the past few years the vaginal method was preferred to the abdominal. It is important in cases of cancer of the uterus that all of the diseased structure be removed; consequently this can be done more easily and thoroughly by the abdominal route.

Dr. J. Wesley Bovee, Washington, mentioned three classes of cancer of the uterus, where the removal of whatever other structures may be involved, is advisable. In very feeble patients, who are not able to stand a prolonged or tedious operation, he favors the combined method advocated by Ries, Clark, Werder and others. He has done the combined operation in 13 cases, all of whom are living, with 2 recurrences.

Dr. A. H. Cordier, Kansas City, Mo., said, in cases in which there is extensive involvement of the cervix by the cancerous process, as involvement of the bladder and rectum, patients derive much benefit by a thorough curettage of the cancerous mass, then the Paquelin cautery, and packing of the parts with carbid of calcium. Along with this he uses the old Goodell injection (vaginal) of permanganate of potash.

Dr. Hugh A. Cowing, Muncie, Ind., urged upon the general practitioner the importance of making an early diagnosis of cancer of the uterus.

Dr. William F. Barclay, Pittsburg, thinks the general practitioner is blamable for not referring cases of cancer of the uterus early to specialists. For years he has made it a rule, when in doubt as to the diagnosis of disease of the uterus, particularly when the patient complained, to refer the case to a specialist, and has been satisfied with the results.

POST-OPERATIVE INTERNAL HEMORRHAGE.

Dr. A. H. Cordier, Kansas City, drew the following deductions: 1. In diagnosing post-operative hemorrhage the history of the patient will aid much. 2. Symptoms of shock and hemorrhage are very similar. 3. In suspected cases a single stitch in the incision cut will tell. 4. In cases in which bleeding is anticipated, a tube should be used. 5. The surgery must be quick and decisive in these cases. 6. Large quantities of normal saline solution will save many cases. This should be used both per rectum and into the veins. 7. Strychnia, belladonna, etc., will not control bleeding from the uterine or ovarian artery any better than from the radial or temporal. 8. The surgeon should do what his surgical conscience tells him is right.

INTERMITTENT HYDROPS OF THE KNEE.

Dr. George W. Cale, Springfield, Mo., reported the case of a woman 45 years of age. The first appearance of her trouble began five years ago. There was no history of injury. There was a rapid accumulation of fluid in the left knee-joint, but which was not painful. This disappeared in from one to four weeks, with or without treatment. The disease would recur at periods varying from one to six months.

VENTRAL HERNIA FOLLOWING LAPAROTOMY.

This paper was read by Dr. B. Brindley Eads, Chicago. The occurrence of ventral hernia as a sequence of abdominal section is so common that it should command thoughtful consideration. The author urged the adoption of those methods which personal experience has demonstrated to be of the greatest use, both immediate and remote. He quoted Greig-Smith as saying that ventral hernia is a mere stretching of scar tissue, but the essayist regards it as a stretching not only of the scar tissue, but of all of the tissues of the abdominal wall at the site of its occurrence.

As intact innervated muscular fiber is the only safeguard against hernia following laparotomy, the first rule is to make the abdominal incision parallel, or nearly so, with the direction of the motor nerves, and of the most important muscular fibers supplied by these nerves. In considering the incision the following points must be taken up: 1. The length is largely dependent on the thickness of the superficial fascia; it must be sufficient to allow free access to the muscles whose functional integrity is essential to success. 2. The length must be relatively greater than when muscular fibers are to be separated instead of divided. 3. It must vary with the pathological condition for which the operation is performed. 4. An opening of sufficient size must be secured for thorough exploration and to obtain the requisite degree of precision and rapidity in manipulation. 5. A long incision through the skin and superficial fascia does not predispose to hernia. 6. It lessens the mortality by providing ample space for the protection of surrounding viscera. 7. It lessens shock by diminishing the time required for the operation, and also the duration of the anesthesia.

Several incisions were mentioned by the essayist. The difficulties he has experienced in reaching the appendix through the McBurney incision in acute suppurative cases of appendicitis have caused him to devise another method of approach in a more dependent part. This incision overlies the outer border of the cecum and leads directly to the appendix. It is slightly curved outward and downward, crossing an imaginary line drawn between the anterior superior iliac spines. The center of this curve is from an inch to an inch and a half to the inner side of the right superior iliac spine. The skin and superficial fascia are incised for about two inches. This freely exposes the aponeurosis of the external oblique, which is separated by means of the dry dissector, or the handle of a scalpel, in the direction parallel to its fibers, and well retracted. This brings into view the transversely arranged fibers of the internal oblique and transversalis muscles, and the twelfth abdominal, ilio-hypogastric, and possibly the ilio-inguinal, nerves which are in turn retracted in order to reach the transversalis fascia, which, together with the peritoneum, is divided transversely. The advantages gained by this incision are: 1. It provides easy access to the diseased area. 2. It enables the operator accurately and securely to protect the peritoneal cavity from infection. 3. It lessens liability to breaking down the inner limiting wall of adhesions. 4. It affords a better opportunity to open the abscess cavity from the outer side. 5. It favors drainage. 6. It has not been followed in the author's experience either by appendicular fistula or post-operative hernia.

GANGRFNE OF THE SCROTUM AND PENIS.

Dr. E. H. Richardson, *Atlanta, Ga.*, narrated the history of a case which showed the initial lesion to have been an abrasion of the skin near the os pubis, with probably infection from the erysipelatous cocci at this point, and later a mixed infection from the streptococcus of gangrene, terminating in the destruction of the gangrenous process of the entire integument of the penis and of three-quarters of the scrotum. A plastic operation was made, with the result that the integument of the penis and testes was preserved. The patient made a perfect recovery.

TRACHELOPLASTY.

Dr. Henry P. Newman, Chicago, read a paper on this subject. In order to maintain a condition of normal health in the body, it is necessary that all of the organs properly perform their functions. The author calls attention to the great importance of the function of the cervix uteri in relation to disease in women. In former times cervical lesions were recognized as a fruitful source of gynecic evils, and many operations and instruments were devised for their correction. Emmet's trachelorrhaphy, once so popular, has ceased to be adaptable to the needs of to-day in repairing cervices. Dr. Emmet, in conceding this himself, and offering amputation as a substitute, states that the great advance in the obstetrical art and the methods of caring for a lacerated cervix in labor have altered the character of surgical pathology, so that trachelorrhaphy, as formerly practiced, is rarely called for.

The author finds the indications for plastic work on the cervix still widespread enough to justify the presentation of a new method of operating. This he calls tracheloplasty, it being plastic work designed not only to restore normal contour and relation, but to re-establish proper function. The distinctive features of the methods are the use of a specially designed knife, the shape of the flaps in the anterior and posterior lips of the cervix, clean, smooth-cut surfaces, accurate approximation of flaps, the certainty of restoring the proper lumen of the canal, and the simplicity of the after-treatment. Neither tracheloplasty, nor any one operation of the kind, should be relied on to correct all the ills which accrue from lacerations in child-bed. It is frequently necessary to do such simple work as shortening the round ligaments, or suspensio uteri, where there is a displacement of the uterus; divulsion and curetting where disease has extended to the endometrium above; reparation of the pelvic floor where, through relaxation or trauma, there is a hernial condition of the rectum, bladder, vagina or superimposed viscera; sometimes even the opening of the abdomen for plastic work, or resection of pathological conditions of the ovaries, tubes, etc. Any one or two of these accessory operations may be necessary to restore the patient, although the disease or deformed cervix may have been the essential, perhaps the sole, etiological factor in the case.

MIDDLE-EAR DISEASE IN ITS RELATION TO THE CRANIAL CAVITY.

Dr. O. J. Stein, Chicago, read a paper on this subject, in which he pointed out the necessity of recognizing the importance of possible intracranial complications in every case of middle-ear disease. The various avenues of infection were dwelt on at length, these being illustrated by beautiful drawings and specimens. The symptomatology of intracranial phlebitis, thrombosis and abscess was discussed, and several instructive cases reported. In connection with this paper, Dr. J. Holinger, Chicago, gave an interesting stereopticon demonstration.

ADDRESS IN MEDICINE.

Dr. I. N. Love, New York City, selected for his subject, "Nutrition and Stimulation." Continuance of life, beginning with the original protoplasm, the cell, depends on proper nourishment. The recognition of this fact is essential in all the work of the physician. The proper nutrition of the new being, from the very beginning, prior to birth, should be carefully looked after by the careful physician. After birth the security of the infant depends on the proper appreciation of its proper feeding. From infancy to maturity this should be the essential thought of the parent and the doctor, who should ever realize his importance as the helper of the parent in the building-up of a complete man or woman. The entire scheme of tissue-building, of repair, of maintenance of the mechanism of the human body involves not only nutrition, but perfect elimination, and the two together are expressed in the term metabolism. Interrupted metabolism tends toward organic disease, and finally death. Perfect metabolism means perfect health.

Stimulants are of value, if used in the right way and at the right time. In the healthful condition they are not needed. They are essentially a luxury. All luxuries should be used with the greatest care, and only the thoroughly healthy can indulge safely in luxuries. Stimulants are divided into two classes, namely, those that are exclusively remedial, and those that come under the head of luxuries associated with everyday life. Of all the stimulants, alcohol stands first. It is probably the most prompt diffusible stimulant we have. There are arguments for and against alcohol as a food.

Coffee and tea are essentially domestic pleasures, and while seemingly harmless, they are potent whippers-up of energy and should be used with great care. Tobacco has never been thought of as a food. It is primarily a stimulant, but, like all other stimulants, it is secondarily a depressant. It is a luxury, pure and simple. Morphin, cocain and others of their class are of great value to the profession, but improperly used are more deadly in their effects than the scalpel in the hands of the unskillful.

TREATMENT OF PERIRECTAL ABSCESSES.

Dr. John L. Jelks, Memphis, Tenn., read a paper on this subject. Rectal abscesses, when properly treated, are not so serious as when it was the practice to use poultices and await pointing. These abscesses need not result in fistulæ, unless they are the result of malignant diseases, as tuberculosis, cancer and syphilis. The fault to be found in a simple incision and drainage of these abscesses is that their walls are not gotten rid of; hence this barrier to general infection or infection of other and deeper structures remains to continue an irritation and to cause suppuration. In many cases the abscess wall becomes calloused, and all efforts to establish granulation are futile. When he is able to elicit fluctuation, he opens freely and hastily irrigates through an irrigating curette, attached to a fountain syringe, until the irrigating fluid comes away free from debris; then with a sharp irrigating curette he removes all of the abscess wall, thereby converting the cavity into a surgical wound. He uses formalin solution in irrigating these cavities and packs them with iodoform gauze. After thus treating these cases he expects no further suppuration. Since using formalin solution in irrigating these cavities he has, in the after-treatment of them, seldom noticed any suppuration.

Superficial abscesses should be dealt with in the same manner; or they may be frozen and excised as the surgeon would a tumor. They are, when otherwise treated, liable to infect deeper structures. Local anesthesia will suffice, and curettage can be properly practiced with it. If the wound is painful, or the formalin solution irritating even when very dilute, antibrule in 50 per cent. solution is to be preferred. In rectal surgery he has not found the objections to the use of formalin which have been referred to by rhinologists and laryngologists.

SIMPLE OPERATION FOR HEMORRHOIDS: ENUCLEATION.

Dr. J. Rawson Pennington, Chicago, contributed this paper, which was profusely illustrated. He gives a cathartic the second night before the operation, a saline the following morning and a bath, and colonic flushing the night before. The next morning he gives an enema of from one-half to one pint of cool water, and operates two hours later. He emphasizes the importance of carefully examining the entire rectum. He grasps each anal quadrant at the muco-cutaneous junction with a pair of forceps; the anus is everted, and the internal tumors exposed. Seizing with the hand the forceps attached to the posterior quadrant, he fully everts it, and, with a pair of scissors curved on the flap, cuts off the redundant membrane only, which is usually about one-third or one-half of the uppermost part of the hemorrhoidal node. This permits the blood in the tumor to escape. All of the angiomatous tissue is carefully removed, when the remaining wall collapses. Each quadrant in regular order is treated in a like manner. A stream of hot sterilized water flows over the field continuously during the operation. Spurting vessels, if any, are caught with forceps and thoroughly twisted. Should this fail to control hemorrhage, he throws a ligature around the vessel and ligates it. The operation having been completed, he introduces a rubber-covered tampon, which has been fully described in previous articles by the author.

The advantages of this method are: There are no stumps to slough, nor nerves caught and squeezed, which will cause excruciating pain, as when the ligature is used; nor are the nerves and tissues burned to a crisp, as when the clamp and cautery are employed. The formation of stricture is obviated.

The patient is given a cathartic and the tampon painlessly removed at the end of forty-eight hours. There is no pain nor bleeding with the movement of the bowels. After the bowels have moved the patient is instructed to keep them soft for two or three weeks by taking compound licorice powder or Apenta water, the latter being very palatable and effective. He has performed this operation in fifty cases, with more satisfactory results than he has obtained by any other method.

OBSTIPATION.

Dr. Sterling B. Taylor, Columbus, Ohio, read this paper. Obstipation was defined, and a comparison of obstipation, constipation and costiveness made. The causes of obstipation were dwelt on and classified. Hypertrophy of the rectal valve was emphasized as the usual cause of obstipation. The essayist defended the views of Martin and his method. The symptomatology of the affection and palliative and radical treatment were discussed, the author closing his paper with the citation of several cases.

TUBERCULOSIS OF THE SPINE.

Dr. Alexander C. Wiener, Chicago, contributed a paper on this subject. He made a plea for early diagnosis before deformity is noticeable. Extension and hygienic treatment are essential in avoiding complications, such as paresis and gravitation abscess. He exhibited a specimen which illustrated the possibilities of forcible correction of the spine. He narrated cases of psoas abscess in which he had effected a cure with injections of concentrated carbolic acid.

MEDICAL AND SURGICAL TREATMENT OF ACUTE AND CHRONIC CERVICAL LYMPH NODES.

Dr. Horace H. Grant, Louisville, dwelt on the purpose and function of the lymphatic glands. He showed how they may be rendered useless and harmful by disease and disintegration. He pointed out the limitations of medical and expectant treatment, and outlined the indications for the various surgical procedures.

ADDRESS IN SURGERY.

Dr. Charles A. Wheaton, St. Paul, chose for his subject "Fulminating Appendicitis." He said that every case of appendicitis is and by rights ought to be considered surgical, because the surgeon's training specially qualifies him to best interpret the meaning of the symptoms encountered. Every case of so-called fulminating appendicitis should be operated on as soon as its distinctive characteristics are known. High temperature and accelerated pulse, associated with local pain and rigidity, are strong presumptive evidences of malignancy in the attack, and if associated with vasomotor disturbances, are practically proof positive of perforation. The surgeon who refuses the only chance that drainage may give even the most desperate cases is false to himself, and fails materially in discharging his obligations to his patient, obligations which the patient has a right to expect at his hands. A puncture in the median line, in the loins or, in a woman, in the posterior cul-de-sac, under local anesthesia, does not add to the danger of the condition, and it materially aids nature in the awful uphill fight. In short, in every fulminating case, operate first and philosophize afterward.

SUBARACHNOIDEAN INJECTIONS OF COCAIN FOR OPERATIONS BELOW THE DIAPHRAGM.

Dr. Carl H. Andersen, Chicago, referred to the work of Tuffier, Bier and others in this comparatively new field, saying that sufficient credit had not been given to Leonard Corning as the originator and adviser of this method of anesthesia. He described its technique, which is substantially that outlined by Tuffier, and reported six cases in which he had resorted to the method.

Case 1.—Hydrocele, with vague history. Patient, colored, 28 years of age, strong and healthy. Subarachnoidean injection of 15 minims of 2 per cent. solution of cocain. Anesthesia complete. On opening the scrotum sarcoma of the testicle was found and removed. Ninth day after operation patient died from pulmonary embolism.

Case 2.—Varicose veins of the leg. Injection of 8 minims of 2 per cent. solution of cocain. Anesthesia lasted five hours and ten minutes. No pain during operation. Perfect recovery.

Case 3.—Trachelorrhaphy. Cocain anesthesia. As soon as operation was finished the patient fainted and remained in that condition for two hours. Under strychnia and salt water per rectum she rallied and recovered.

Case 4.—Amputation of toe in a man 72 years of age. Seven minims of 2 per cent. solution of cocain injected. Uninterrupted recovery.

Case 5.—Operation for suppurative appendicitis. Patient, woman. Operation performed at 10 a.m.; at 2 p.m. patient showed symptoms of medullary irritation, pain in the back, and severe headache. It is now several days since the operation was done, and patient has had a terrific headache ever since.

Case 6.—Version and use of forceps. At the suggestion of Dr. Harold N. Moyer, Dr. Andersen injected 16 minims of a 4 per cent. solution of eucain B in this case, with very satisfactory results. Patient suffered no pain whatever. Eucain B can be perfectly sterilized by boiling.

Dr. Andersen spoke of the difficulties attending the sterilization of cocain, and outlined a method by which this can be accomplished. He regards lumbar puncture as a serious operation, and urged practitioners to be exceedingly cautious in employing it. These cases were reported for the express purpose of warning the profession that the method is far from harmless, and if it is employed indiscriminately it will lead to disastrous consequences.

Dr. Harold N. Moyer, in the discussion, said that if advised as to the use of this method of anesthesia, he would say, do not use it. No surgeon should undertake it unless he has a well-equipped laboratory. The method is at best in its experimental stage, and further research and experiments should be carried on in well-equipped clinics until the possible dangers of this method are better and more clearly understood. Among the dangers are the toxic properties of the cocain. A 4 per cent. solution of eucain B can be used with absolute safety. It is about one-third as toxic as cocain and one-half as anesthetic as cocain, but it can be absolutely sterilized. The danger of infection from such injections is considerable, and should not be overlooked. As to the remote dangers from this form of anesthesia, cases have not been observed sufficiently long to enable surgeons to say whether or not there are such dangers.

TREATMENT OF TUBERCULAR AND PURULENT HIP-JOINT DISEASE WITH LARGE SPECULUM DRAINAGE AND PURE CARBOLIC ACID.

Dr. A. M. Phelps, New York City, read a paper with this title. All abscesses, tubercular or purulent, should be opened as soon as the diagnosis is made, for the purpose of exploration; secondarily, for drainage, and for any surgical procedure which may be deemed advisable. Excisions should be performed when the acetabulum is extensively diseased, the diseased tissues removed, and the joint thoroughly washed out with pure carbolic acid, then with pure alcohol, and finally with a 2 per cent. solution of carbolic acid, and as large a drainage-tube of glass, as the wound will take, should be inserted. Through this large drainage-tube the packing for drainage purposes can be made. The large glass speculum enables the operator to watch every pathological change which takes place throughout the wound. It keeps the soft parts widely separated, and prevents their union until after the bone has granulated up and healed. It enables the operator to dress his patient without doing violence to the granulating surfaces of the wound, and inflicting unnecessary pain. All rubber drainage-tubes should be entirely discarded, as they are filthy, collapsible, and are a source of infection. The carbolic acid is absolutely neutralized by the action of the alcohol. Local carbolic poisoning, and even when the drug is taken internally, is neutralized by the action of the alcohol. Pure carbolic acid applied locally is a specific for erysipelas, the points of which were brought out in the paper.

PULMONARY TUBERCULOSIS IN INFANCY AND CHILDHOOD.

Dr. Frank P. Norbury, Jacksonville, Ill., said that this disease is not a rarity among children, as the utilization of available post-mortem material shows. Heredity is of etiological importance, but it has lost its prestige as compared to its former standing. Modern scientific inquiry has shown that infection is the etiological factor par excellence. Direct heredity can account for a limited number of cases. The infection theory is proved by the lateness of the appearance of disease; few cases occur during the first year of life, and steadily increase thereafter. The mode and route of infection are important considerations. Northrup, Carr, and others have shown that tuberculosis starts more frequently in the thorax than elsewhere. Pulmonary affections, such as whooping-cough, influenza, etc., create favorable conditions for infection. Enterocolitis and gastroenteritis create portals for intestinal infection. Milk is a source of infection; like [illegible] lous

The diagnosis may be confounded with cases of malnutrition. Bovaird says two evidences of early invasion are "progressive emaciation, not explained by other disease; continued elevation of temperature similarly conditioned." Differential diagnosis from bronchopneumonia can be made only by laboratory methods. Acute miliary tuberculosis and bronchopneumonic tuberculosis are most frequently found in infants and children.

The complications are meningitis, empyema, and involvement of bones. The prognosis is grave in most all cases, but lesions of lungs may heal under favorable conditions. With reference to treatment, prophylaxis during infancy should include attention from birth, if mother is tuberculous; also good hygienic, open-air treatment; climatic change, when possible. The symptomatic care should be the same for children as for adults. Good nutrition should be maintained, and as little medicine given as possible. Creosote is recommended by the author, also simple tonics.

THE PHYSICIAN AS A SANITARIAN.

Dr. Hugh A. Cowing, Muncie, Ind., read a paper on this subject in which he discussed preventive medicine; hygiene of infection; the physician as a factor in the spread of infection; the physician and the health officer; health legislation, and the physician and the public schools.

THE PHILOSOPHY OF THE SCIENCE AND ART OF MEDICINE.

Dr. William F. Barclay, Pittsburg, said that thoughtful minds should be engaged in ascertaining truth from falsehood. True and false philosophy should be appropriately applied to results obtained in rational conclusions. The philosophy of medicine is the comprehension of the truth in the investigation of the science, enabling one to arrive at rational conclusions in the study of physical laws which govern organized matter in their normal and pathological condition.

ASTHMA.

Dr. B. Alexander Bate, Louisville, stated that Loomis, Trousseau, Salter and others, have considered asthma a diathetic neurosis. Haig attributes it to the effect of uric acid on the circulation in the thorax. Modern opinion seems to regard asthma as a neurosis of the pulmonary plexus. In bronchial asthma uric acid in the blood so alters nutrition as to cause a neurosis of the branches of the pulmonary plexus, thus inducing hyperesthesia and engorgement of the bronchial mucosa, spasmodic contraction of the muscular fibers, and the various manifestations of metabolism. Asthma frequently alternates with such diseases of the arthritic diathesis as neuralgia, migraine, angina, and gout. Clearing the blood of uric acid has relieved asthma only to be followed by gout, as the uric acid was precipitated into the tissues. Asthma may be said to belong to the class of uric-acid diseases due to the effect of high arterial tension in contradistinction to those produced by precipitation of urates into the tissues. Cases are recorded in which mediastinal tumors pressing on the pneumogastric nerve continuously first cause asthmatic paroxyms during the alkaline tide. Pressure explains the neurosis, and the time of the paroxysm manifests the uric acid. Modern treatment has been able to cut short the attacks in most instances, and often to prevent their return. Prophylactic treatment should embrace proper hygiene and diet. Prophylaxis should be begun in the children of lithemic individuals. The therapeutic measures embrace the care of the attack and treatment during the interval. After the removal of the exciting cause the treatment consists in the use of such remedies as overcome arterial tension by freeing the blood of uric acid. The treatment of the interval consists in the use of such drugs as eliminate uric acid from the system, and the adherence to such a diet as permanently keeps down arterial tension. Rational treatment, based on the theory of uricacidemia as the chief factor in the production of asthma, has been most satisfactory in the hands of the essayist.

CURABILITY OF INEBRIETY BY MEDICAL TREATMENT.

Dr. T. D. Crothers, Hartford, Conn., said that inebriety is a neurosis, usually self-limited, and very largely curable. The craze for drink is symptomatic. The real causes are central nerve irritation, exhaustion, poisoning, and starvation. The success of the treatment depends on accurate knowledge of the causes and conditions present in each case, and the accurate application of general means and measures for their removal. Each case requires special means and measures, particularly adapted to meet the conditions present. The family physician as well as the specialist should treat these cases successfully.

FURTHER OBSERVATIONS ON THE CLINICAL APPLICATION OF THE SUPRARENAL CAPSULE.

Dr. W. H. Bates, New York City, regards the aqueous extract of the suprarenal capsule as the most powerful astringent hemostatic, and heart tonic known to the profession. It lessens congestion of the eye and of other organs. The extract is not irritating or poisonous, and, unlike other powerful drugs, is never in his opinion contraindicated. In short, the profession has no remedy which is so useful in all forms of inflammation.

CLINICAL VALUE OF PURGATIVE MINERAL WATERS.

Dr. Edwin Rosenthal, Philadelphia, discussed this subject. He spoke of natural and artificial mineral waters; simple, thermal, common salt, or muriated waters. He dwelt on the waters mostly met with in commerce, spoke of their chemistry, names, mode of action, uses, method of selection of a special purgative water, etc.

WHAT THE LAW REQUIRES OF A SURGEON.

Dr. Dudley S. Reynolds, Louisville, stated that a surgeon must possess a reasonable familiarity with the science of his profession; he must exercise reasonable skill for the locality in which he practices, and must devote due diligence and care in attending to his patient. If the patient declines to submit to that treatment which in the judgment of the surgeon is most appropriate, and he does not abandon the case at once, he assumes liability for the result of failure to do that which in his judgment was best for the relief of the patient.

DIFFERENTIAL LEUCOCYTOSIS.

Dr. L. H. Warner, Brooklyn, read this paper. Experiments in recent times have given us a better insight into leucocytosis. It has been demonstrated to be due to three causes—digestion, inflammation, and infection. Physiological and biological experiments have proved that by means of medication a true picture of leucocytosis may be produced, but which in reality represents leucocyto-diuresis, a condition very desirable in the treatment of disease and a recognition of which is of the greatest value when hematology is called on to aid in arriving at a correct diagnosis.

The following officers were elected for the ensuing year: President, Dr. A. H. Cordier, of Kansas City, Mo.; first vice-president, Dr. Charles F. McGahan, of Aiken, S. C.; second vice-president, Dr. Charles L. Minor, of Asheville, N. C.; secretary, Dr. Henry E. Tuley, of Louisville, Ky., re-elected; treasurer, Dr. Dudley S. Reynolds, of Louisville, Ky., re-elected.

Put-in-Bay, Ohio, was selected as the next place for holding the meeting; time, September, 10-12, 1901. Dr. J. C. Culbertson, of Cincinnati, Ohio, was selected as the chairman of the committee of arrangements. The meeting ended with a banquet at the Battery Park Hotel, given by the Buncombe County Medical Society.

Cincinnati Academy of Medicine.

Stated Meeting, September 24.

President Dr. Charles L. Bonifield, in the chair.

EPITHELIOMA OF WRIST.

Dr. Meyer L. Heidingsfeld presented a negress, aged 62, with a large epithelioma on the posterior surface of the right wrist, which had commenced about eight months before as a small wart, and now occupied an almost circular area about two inches in diameter. The growth was very warty in character, but did not extend deeply into the tissues of the wrist. The cubital glands were somewhat enlarged, but those of the axilla were not involved. In connection with this case he wished to present for Dr. Samuel E. Allen a similar case, in which the tumor had been excised by a so-called "cancer doctor"; on microscopical examination the excised portion was found to be not epitheliomatous but syphilitic.

DOUBLE HYDROSALPINX.

Dr. Edwin S. Ricketts presented specimens of double hydrosalpinx removed from a woman thirty-three years of age, whose husband was known to have had gonorrhea at the time of his marriage. She had never been pregnant. The unusual feature of the case was that she should have had hydrosalpinx and not pyosalpinx, and that on operation the ovaries and tubes were found absolutely free from adhesions.

PATHOLOGICAL SPECIMENS.

Dr. Henry W. Bettman presented some pathological specimens obtained during the previous week at autopsies at the Cincinnati Hospital.

1. *Cor bovinum*, in which the principal organic change was found to be a stenosis of the aortic valve, of so high a grade that only a medium-sized probe could be inserted into the opening. The cause of the stenosis was an enormous amount of granulation tissue completely surrounding and occluding the orifice. There was also incompetency of the aortic valve, as well as relative incompetency of the mitral. The heart was greatly enlarged, particularly on the left side. The cavities were all dilated. Myocardial changes of considerable degree also existed. The spleen enlarged and presented a large red infarct.

2. *Pseudo Female Hermaphroditism.*—The external and internal genital organs were presented. The individual had dressed as a woman, and as she had died from the effects of severe burns, inflicted in an attempt to save a number of helpless children, her womanly instincts were probably well developed. Her general build was rather masculine than feminine, though the breasts were of the feminine type. At the usual location of the clitoris there was a small undeveloped penis without urethra; the vaginal orifice was only about two inches in length and there was a separate orifice for the urethra. The testicles were situated to the right behind the nymphæ. There were no internal female organs of generation.

3. *Stone in the Kidney.*—Removed from a patient who died from alcoholic meningitis. The kidney with its capsule weighed two pounds. On opening the organ, a stone was found involving almost one-third of the entire mass, together with numerous smaller stones. The larger stones were surrounded by pus. The speaker was often in doubt whether the irritation of the stones caused the suppuration, or the pus formation resulted in a precipitation of the phosphatic material. The other kidney was normal beyond a compensatory hypertrophy.

INTESTINAL ANASTOMOSIS.

Dr. Magnus Tate called attention to Johnson's device as an aid to intestinal anastomosis—a cylinder of potato or other vegetable, which was crushed after the two ends of the intestine had been brought together by a Lembert suture.

DIABETES MELLITUS.

Dr. Mark A. Brown reported a case of diabetes mellitus, showing how, under strict diabetic diet, rest, and a single remedy, much could be done to alleviate the condition. The patient, when admitted to the hospital, complained principally of inability to retain urine and polyuria, which had persisted for more than a year. He was apparently in the best of health, robust, and looked ten to fifteen years younger than 71, his true age. Analysis showed a decided reaction for sugar. He was put on the bromid of gold and arsenic, ten drops three times a day, the dose to be gradually increased. Not only has the total quantity of urine passed in the twenty-four hours diminished, but the percentage of sugar in this decreased in amount, and consequently the total output of sugar has also lessened, showing beyond all doubt that improvement has taken place.

NEPHRITIS.

Dr. Alfred Friedlander presented a case of nephritis. The patient, a female, aged 28, had had scarlet fever in childhood, and remembered that at that time her face had become greatly swollen. For eighteen years following this she had enjoyed perfect health. Five years ago she became dull, stupid, with loss of appetite, dizziness, marked diminution in the secretion of urine, and finally convulsions. Similar attacks followed at irregular intervals, each attack being followed by apparent recovery with absolutely no abnormal symptoms during the intervals. A year ago she was married. During the pregnancy that soon ensued edema of the face and extremities, without ascites, appeared; albuminuria existed from the third month with casts. Her condition grew steadily worse, until, in the eighth month of pregnancy, it became necessary to induce labor. The patient promptly recovered. Three months later she had an attack of appendicitis, followed by dulness, marked disturbance of vision, intense headache, and almost complete suppression of urine. For four days thereafter, the urinary secretion did not exceed two ounces, but there was no edema of the face or extremities, no ascites, and no albuminuria. A week later, under treatment, the urine had risen to a pint and a half in twenty-four hours; at this time there was albuminuria and casts were found. Improvement was rapid, and at the present time she enjoys excellent health, the urinary conditions being normal.

INCIPIENT POTT'S DISEASE.

Dr. Albert Freiberg reported a case of incipient Pott's disease in which there was pronounced lateral, but no anteroposterior curvature. He called attention to the difficulty of early diagnosis in these cases, and said that even when some curvature was present, it was necessary to exclude stone in the kidney. The marked improvement of his patient in a well-fitting plaster jacket he also considered a diagnostic point of some value.

Philadelphia Academy of Surgery.

October 1, 1900.

President Dr. De Forrest Willard in the chair.

DISLOCATION OF THE TOE.

Dr. Gwilym G. Davis called attention to the frequency with which this injury was overlooked. The physical signs are slight separation of the toes on standing, local pain, projection of sole of the foot, and of the head of the metatarsal bone of the affected toe. The dislocation has such a tendency to recur that opening of the joint and loosening all fibrous attachments and tendons in narcosis is advised. A more sure operation would be to amputate. Resection he would not advise on account of the tendency of the toe to become displaced, and a source of pain and annoyance.

OPERATION IN THE PRE-PERFORATIVE STAGE IN TYPHOID FEVER.

Dr. Robert G. LeConte reported the case of a patient aged 23, who had been admitted to the Pennsylvania Hospital on account of symptoms pointing to appendicitis. He was anesthetized, the abdomen opened, and intestines drawn into the wound, when it was found that they were entirely covered in areas with plastic lymph, which was removed carefully. There were small dark spots along the ileum due to necrotic Peyer's patches. The peritoneal cavity was walled off as much as possible by gauze. Ten days later there was a discharge of feces through a fistulous opening, typical symptoms of typhoid fever developed and the blood gave a positive Widal reaction. He was discharged cured on the fiftieth day.

Dr. William J. Taylor believed that the only hope in cases of perforation during the course of typhoid fever was to operate at the earliest possible moment. In cases where there had been only a perforation without peritonitis and in which an operation had been done, recovery followed. The physician delays too long before referring such cases to the surgeon, and it devolves on the physician to make an early diagnosis.

Dr. G. G. Davis advised isolation of the diseased parts by means of gauze rather than invagination or suturing.

SHOT AS A NUCLEUS OF A [illegible] ULUS.

Dr. Robert G. LeConte reported [illegible] ich while hunting, had accidentally [illegible] is gun charge penetrated his left side. A few days later fourteen shot were discharged in the urine. Several years after the injury he complained of pain and tenesmus on micturition and other evidences of stone, which was found on examination. Litholapaxy was done, and in the fragments a No. 6 shot was found; it appeared to have acted as the nucleus. He made a good recovery.

Dr. William G. Porter reported a case in which a twig had acted as a nucleus of a vesical calculus.

PERFORATION OF THE SMALL INTESTINE.

Dr. William J. Taylor reported a case of a young man who, while hunting, accidentally discharged the gun, the stock of which struck him in the abdomen. A few days later general peritonitis developed. He was first seen by the speaker about the eighth day. Immediate operation was advised, and, on opening the abdomen, the intestines were found completely matted together by plastic lymph. While separating a portion of the bowel, a sudden gush of liquid feces escaped, which it was found had come from a perforation enclosed in the matted portion of the intestine. The perforation was closed with a double row of sutures, but the patient subsequently died.

Dr. Richard H. Harte desired to emphasize the importance of early operation in certain cases of contusions of the abdomen. In 4 cases of contusions in this region in which he had operated the intestine was found to be ruptured in 2 and the liver ruptured in the other two.

Dr. DeForrest Willard spoke of a case in which a child 3 years of age had fallen on a picket fence which had made a large rent in the stomach and had protruded through the diaphragm and upward toward the heart. The patient was operated on without an anesthetic, and the injury repaired, but death followed several hours later.

Dr. William G. Porter asked Dr. Harte what signs or symptoms he considered most important indications for opening the abdomen. Dr. Harte replied that shock, a slow pulse, tympanites and evidences of peritonitis were in his opinion most important.

Dr. Robert G. LeConte believed that if operation was to be done, it should be done within the first twenty-four hours, but after that point it should be treated upon the expectant plan.

PRESENTATION OF A SPECIMEN.

Dr. Michael O'Hara presented a specimen of intestine removed from a dog on which he had done an end-to-end anastomosis fourteen days previously. The union appeared to be perfect. In using his forceps in these cases he had not met with any hemorrhage from the mucous coat. In suturing, he endeavored to go through this coat. Dr. LeConte and Dr. Girvin both corroborated the statements of Dr. O'Hara that there is usually no hemorrhage.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Medical News (N. Y.), October 9.

1 *Internal Secretion of the Ovary. Arthur W. Johnstone.
2 *Internal Antisepsis. Reynold W. Wilcox.
3 *The Treatment of Consumption at Home. Joseph Eichberg.
4 Iritis. J. H. McCassy.
5 Meralgia Paresthetica. James J. Walsh.

New York Medical Journal, October 6.

6 *Prevalent Errors Regarding the Diagnosis and Treatment of "Eye Strain" from Various Causes. Ambrose L. Ranney.
7 Some Observations upon Syphilitic Manifestations in the Optic Nerve and Retina; Inflammatory Manifestations. (Continued.) Paul T. Vaughan.
8 *The Use of the Suprarenal Capsule in Diseases of the Heart: a Preliminary Report. S. Floersheim.
9 *Combined Electrization or Galvanofaradization. A. D. Rockwell.
10 Implantation of an Artificial Vitreous; "Mules' Operation." Matthias L. Foster.
11 Fibroma of the Larynx. A. B. Thrasher.
12 A Case of Pin in the Larynx for Two Years; Removal by Endolaryngeal Methods. A. W. De Roaldes.

Boston Medical and Surgical Journal, October 4.

13 *Remarks upon Obscure, Non-Traumatic Tumors of the Lower Abdomen Suddenly Appearing where None had Previouusly been Detected. Maurice H. Richardson.
14 A Case of Inflamed Peritoneal Cyst Simulating Ovarian Cyst with Twisted Pedicle. Agnes C. Vietor.
15 *Serum Therapy in Pneumonia. William H. Smith.
16 Case of Patent Foramen Ovale in Advanced Life. William L. Worcester.

Philadelphia Medical Journal, October 7.

17 Hemorrhagic Pancreatitis and Fat-Necrosis Following an Operation on the Gall-Bladder. Charles G. Stockton and Herbert U. Williams.
18 *Obstruction of the Common Bile-Duct. John B. Deaver.
19 *The Relation Between Gall-Stones and Appendicitis. A. J. Ochsner.
20 *The Etiology of Gall-Stones. Frederick C. Shattuck.
21 Indications for the Drainage in Diseases of the Biliary Passages and the Technic of Operation. J. E. Summers, Jr.
22 A Case of Gall-Stone Obstruction of the Cystic Duct Illustrating the Difference in Pathology, Symptoms and Treatment between this and Gall-Stone Obstruction of the Common Duct. Frederick A. McGrew.
23 *Diagnosis of Medical and Surgical Diseases of the Liver and Biliary Passages. John H. Musser.
24 *On Lesions of the Pancreas Simulating Gall-Stone-Impactions of the Common Duct. Maurice H. Richardson.
25 Two Interesting Cases: Gall-Stone of the Cystic Duct, with Situs Viscerum Inversus; and Gumma of the Liver. Frank Billings.

Medical Record (N. Y.), October 6.

26 *Medullary Narcosis During Labor. S. Marx.
27 *Observations on Subclavian Deligation. Schuyler C. Graves.
28 Tuberculosis and its Treatment. Margaret Stanton.
29 *Appendicitis Larvata, and Inflammation of the Right Broad Ligament, Tube and Ovary. Otto Thienhaus.

Cincinnati Lancet-Clinic, October 6.

30 *Tuberculosis of the Skin. A. Ravogli.
31 *Pathology of Tuberculosis of the Skin. M. L. Heidingsfeld.
32 *Treatment of Tuberculosis of the Skin. A. G. Drury.

St. Louis Medical Review, October 6.

33 *The Cell Doctrine. C. Fisch.

Medical Fortnightly (St. Louis), September 25.

34 Report of the Remote Results of Sanguinary Intervention (Intervention Sanglantes) in Urethrostenosis. Reginald Harrison.
35 Diseases of the Lungs and Pleura. Albert Abrams.

American Practitioner and News (Louisville, Ky.), September 15.

36 Serum Treatment. Ewing Marshall.
37 Exophthalmic Goiter. John J. Moren.
38 The Aspect of Smallpox in the United States, its Source and Character; with Report of Two Cases and a Case of Vaccinia. J. Brent Palmer.
38 "Only a Country Doctor." Harold Emery Jones.

Annals of Surgery (Philadelphia), October.

40 *The Surgical Treatment of Primary Renal Tuberculosis, with a Consideration of the Immediate and Remote Results after Operation. Otto G. Ramsay.
41 A Study of One Thousand Operations for Acute Intestinal Obstruction and Gangrenous Hernia. Charles L. Gibson.
42 *Mesenteric Cysts. Charles B. Dowd.
43 *Dislocation of the Humerus. Complicated by Fracture at or Near the Surgical Neck. Charles B. Lyman.
44 *Remarks on Technique of Prostatectomy, with Report of a Case. Herman Mynter.
45 Suprapubic Retrocystic Extraperitoneal Resection of the Seminal Vesicles, Vasa Deferentia, and Half of the Bladder. Hugh H. Young.
46 Excision of the Right Vas Deferens and Vesicle Seminalis for Secondary Tubercular Disease. James A. Hutchinson.
47 A New Method of Calpoplasty in a Case of Entire Absence of the Vagina. Carl Beck.
48 Tetanus. (Concluded.) Alexis V. Moschcowitz.

Bulletin of Cleveland General Hospital, April

49 The Treatment of Lacerated Wounds. William E. Lower.
50 A Case of Gumma of the Iris. W. E. Shackleton.
51 Address at Commencement Exercises, Cleveland College Physicians and Surgeons, Epworth Memorial Church, May 3, 1899. Albert R. Baker.
52 Foreign Bodies in the Hand. N. Stone Scott.
53 A Case of Puerperal Hematoma. R. E. Skeel.
54 Some of the Newer Remedies: Orexine Tannate, Stypticin, Nosophen, Xeroform. J. B. McGee.
55 A Preliminary Report on the Direct Treatment of Chronic Diarrhea—Catarrhal Proctocolitis. Thomas Charles Martin.

American Gynecological and Obstetrical Journal (N. Y.), September.

56 *Reflex Neurosis from Disturbed Pelvic Mechanism. Byron Robinson.
57 *The Causes, Diagnosis, and Non-Surgical Treatment of Pelvic Inflammation. Edward J. Ill.
58 Some Local Nutritive Influences in the Pelvic Disorders of Women. O. B. Will.
59 Ventral Hernia: Report of a Case. Marie Rennotte.
60 *Uretero-Intestinal Anastomosis and its Place in Pelvic Surgery. Reuben Peterson.

Western Medical Review (Lincoln, Neb.), September 15.

61 Acute Osteomyelitis—(Syn.) Acute Infective Panosteitis. Charles C. Allison.
62 Aortic Aneurysm, with Report of Cases and Exhibition of Specimens. J. N. Hall.
63 *Reflex Neurosis from Disturbed Pelvic Mechanism. Byron Robinson.
64 How Shall we Manage our Cases of Membranous Croup? Wilbur N. Hunt.

Obstetrics (N. Y.), September.

65 *Hemorrhage Occurring after the Menopause. E. C. Davis.

Maryland Medical Journal, October.

66 Pylorectomy for Adenocarcinoma, with Report of a Case. Jos. H. Branham.
67 Report of a Case of Encysted Periurethral Gravel. William E. Hunger.
68 Report of Twelve Cases of Mastoiditis, with Operations. George S. McReynolds.

Annals of Gynecology and Pediatrics (Boston), September.

69 *The Prophylactic Douche. O. S. Chapman.
70 Pelvic Suppuration. Florus F. Lawrence.

Clinical Review (Chicago), October.

71 Prolapsus Uteri. Henry F. Lewis.
72 Clinical Lectures upon the Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings.
73 Uronephrosis. M. L. Harris.
74 Disturbance of the Stomach in Relation to Diseases of the Chest. Joseph M. Patton.
75 Gastrostomy for the Cure of Stricture of the Esophagus. Hal C. Wyman.

Chicago Clinic, September.

76 *Subarachnoidean Injections of Cocain as a Substitute for General Anesthesia in all Operations below the Diaphragm—with Report of Nine Cases. John B. Murphy.
77 The Treatment of Sciatica. A. Heym.
78 Pott's Fracture. J. N. Bartholomew.
79 Pharmacology and Modern Therapeutics. J. A. Patton.
80 An Anatomical Lecture. W. T. Eckley.
81 Intubation and Tracheotomy. (Continued.) Aime P. Heineck.

Canadian Journal of Medicine and Surgery (Toronto), October.

82 *Tuberculous Lesions from a Clinical Point of View. Edmund Owen.
83 *The President's Address. R. W. Powell.
84 *Address in Gynecology. William Gardner.

Yale Medical Journal (New Haven, Conn.), October.

85 *Diabetic Coma. John S. Ely.
86 Mineral Springs; Their Practical Use in Medicine. William S. Barnes.
87 *A Study of One Hundred and Forty Cases of Measles, with Reference to the Appearance and Value of Koplik's Spots as a Diagnostic Sign. William J. Maroney.

Louisville Monthly Medical Journal, October.

88 Some Hints on the Diagnosis and Treatment of Chronic Gastritis. Orville A. Kennedy.
89 A Report of Surgery. (Continued.) H. Horace Grant.

St Louis Medical and Surgical Journal, October.

90 *Caroid in the Removal of Tattoo Marks. A. H. Ohmann-Dumesnil.
91 The Japanese Disease "Mitari-Kasa-Yamai" (of 806-809 A. D.)—Was it Syphilis or Leprosy? Albert S. Ashmead.
92 The Non-Tabetic Lesions of the Posterior Column. M. Bruce.
93 The Differential Diagnosis of Organic and Hysterical Hemiplegia. David Ferrier.
94 The Pathologic Anatomy of Idiocy. G. E. Shuttleworth and F. Beach.
95 Case of Ulcerative Otitis. T. J. Biggs.
96 Nature of Tendon-Reflexes. C. S. Sherrington.

Buffalo Medical Journal, October.

97 *The Relation of the Specific Gravity of the Blood to its Percentage of Hemoglobin. F. C. Busch, A. T. Kerr, and F. Filsinger.
98 A Case of Multiple Fracture of the Inferior Maxilla Complicated by Dislocation. William Seaman Bainbridge.
99 The Physician. William Stanton.
100 Antitoxin in Cerebrospinal Meningitis. Francis M. O'Gorman.

Dominion Medical Monthly (Toronto), September.

101 *President's Address at the Canadian Medical Association. R. W. Powell.
102 Sewage Purification by Bacteria. Willis Chipman.

St. Paul Medical Journal, October.

103 Gonococcal Infection: Its Effects, Immediate and Remote. William E. Ground.
104 *Rabies in Minnesota. F. F. Wesbrook.
105 *The Significance of Blood Count in Surgical Diagnosis. Andrew J. Coey.
106 *A Problem in Ethics. Charles L. Greene.
107 *The Superiority of the Suprapubic over the Vaginal Section. A. E. Benjamin.
108 Neurasthenia. H. B. Allen.
109 Pathology of Chronic Gastritis. Franklin T. Poehler.

Canada Lancet (Toronto), September.

110 The Prognosis of Drug Habits, with Some Reference to Treatment. Stephen Lett.
111 Occlusion of the Bowels Following Appendicectomy: Enterectomy Eighteen Hours after Delivery. Obstruction from Tubercular Peritonitis. Ernest Hall.
112 The Pathology of Crime and its Therapeutics. Louis J. Rosenberg.

New Orleans Medical and Surgical Journal, October.

113 *Tuberculosis. J. A. Storck.
114 *Prophylaxis of Surgical Shock. W. M. Perkins.
115 *A Case Illustrative of the Absence of the Ordinary Acute Tympanic Signs in Acute Suppurative Mastoiditis following Abscess of the Middle Ear—Operation—Death. C. J. Landfried.
116 Typhoid Fever—Treatment. F. P. Henry.
117 Mitral Stenosis and Chlorosis. F. P. Henry.

Southern Practitioner (Nashville, Tenn.) October.

118 Face Presentations. Richard Douglas.
119 Asthma and Its Treatment. A. E. May.
120 Recovery of a Case of Tetanus under Serum Treatment. J. Moore Soniat.
121 Large Tract of Chronic Burn Ulceration Healed by Skin Propagation in Blood, from Minute Points of Dermal Tissue. T. J. Biggs.

American Therapist (N. Y.), September.

122 *Epigea for Eructation. Charles D. Aaron.
123 General Anesthesia by Cocain. A. L. Benedict.
124 Orthoform Facts. F. B. Sprague.

AMERICAN.

1. **Internal Secretion of the Ovaries.**—Johnstone combats the rather prevalent idea of there being an internal secretion of importance to the economy from the ovaries and holds that there is no proof that the organism has any other function than the reproductive one. He attributes the troubles of the menopause and menstruation largely to defects of oxidization and excretion and not to any defect of secretion in the ovary. While he believes in reasonable conservative surgery he condemns those dangerous experiments which result in the leaving of a scrap of one ovary, tubes, etc., and the transplantation of the same.

2. **Internal Antisepsis.**—The questions raised by Wilcox are: 1. Is internal antisepsis possible? To which he answers in the affirmative, supporting it by the results of treatment in enteric fever, the examination of the sputum in tuberculosis and the examination of the urine. 2. Can it be detrimental? To this he also says, yes. Instances of fatal poisoning have occurred. 3. Under what conditions may it be employed? In response to this he insists on the importance of knowing all the conditions and avoiding useless attempts when the fact of structural degeneracy have been established. 4. How is it best obtained? Under this head he reviews the antiseptics employed, such as chlorin, silver, bismuth and hexamethylentetramin which have their special actions. Internal antisepsis he says is possible, may be useless or detrimental under certain conditions or may be absolutely contraindicated because of the patient. How best to attain internal antisepsis is a question to which the answer will vary with each successive year as our knowledge of infectious diseases and the best means of combating them is enlarged.

3. **Home Treatment of Phthisis.**—The importance of pure air and nutritive food are the chief points made by Eichberg, though he mentions others, such as moral treatment and drugs. He especially commends the practice of sleeping in the open air as much as possible as advised by Dr. Millett, of Brockton, Mass., in his recent article.

6. **Eye Strain.**—Ranney insists on the importance of proper attention to errors of refraction, the proper fitting, and the centering of glasses, attention to muscular tests, etc.

8. **Suprarenal Capsule in Heart Disease.**—From an experience of eight months Floersheim has found that suprarenal capsule produces a rapid effect on the heart, often toning it up remarkably and especially benefiting it in cases of dilatation, diminishing the area of the heart dulness and localizing the apex beat. It modifies the murmurs, making them more readily diagnosable and rendering the pulsation more rhythmic. Four cases are reported in which the drug was given. He has employed it in 5 gr. capsules, to be chewed by the patient.

9. **Combined Electrization.**—Rockwell finds the combined method of using the galvanic and the faradaic current together as especially beneficial in many disorders. Its musculo-sedative effect is more marked than that of other electric methods, and, therefore, it is valuable in local spasms. He has also found it beneficial as a stimulant over other methods of electric application in diaphragmatic paralysis and to more rapidly ameliorate the symptoms of Graves' disease.

13. **Obscure Abdominal Tumors.**—The class of tumors here described by Richardson are those of sudden appearance and often mistaken for entirely different conditions from those which they really represent. One of the commonest ones is due to a full bladder, and catheterization is therefore advisable for the diagnosis in a very large proportion of these cases. This should constantly appear in the mind of the surgeon and it should be the invariable rule in pelvic surgery to catheterize just before operation, especially in women. The second variety of rapidly-forming tumors may be idiopathic dilatation of the colon or so-called phantom tumor. It is less properly a suddenly appearing than a suddenly disappearing type. There is the condition in which the colon may be twisted and obstructed and show a well-marked tumor. Cases are here reported as illustrating this possibility, which of course, is a serious one. Another condition is peritonitis. Still other causes are dilated stomach, which can not always be correctly diagnosed, and the ovarian tumor with twisted pedicle is a possibility; the different points between it and hematocele are here discussed. Ectopic pregnancy, of course, is to be considered. Still other remotely possible sources are distended gall-bladder and intermittent hydronephrosis. It would appear from the whole of these facts that a positive diagnosis is not always possible. In most of these cases pain is the most important symptom and this alone demands careful examination of the pelvic viscera. The mistake of opening a full bladder is inexcusable. The diagnosis of distended stomach may be impossible. A large bulging tumor of the dilated colon gives signs which Richardson thinks will suggest the true lesion; if it subsides under anesthesia, has a typical resistence, tenderness; if it is rounded and symmetrical; if the obstruction is acute and there has been no gradual cachexia, the dilated colon is strongly indicated. The suddenness of appearance rules out the dilated coils of a chronic obstruction, such as, for example, that due to cancerous stricture. The diagnosis of extrauterine pregnancy is usually easy and of the ovarian tumor with twisted pedicle is easy when such tumor is known to exist, where one has not been previously found it is very difficult. In spite of the difficulty of diagnosis the signs point toward surgical intervention. It is of very little matter whether the case is one of ectopic pregnancy, or twisted pedicle, or extrauterine hemorrhage, or intestinal obstruction; in all the operation may be of use. It is, however, of some importance if expecting a serious lesion, he finds a full bladder or normal pregnancy. In all suddenly appearing tumors, however obscure they may be, intervention is demanded if the symptoms are the least urgent.

15. **Serum Therapy in Pneumonia.**—The possibility of serum therapy in pneumonia is here noted by Smith, who reviews the facts and sums up that "as the question stands today it may be stated that, experimentally, animals may be rendered immune, that their serum has protective property, and that continued investigation is doing away with some of the difficulties which previously harassed the early investigators. But the fact still remains that in dealing with the pneumococcus we are dealing with an organism capable of many variations and degrees of virulence, and that the sera obtained under such conditions must of necessity vary both in strength and character. Washbourne's method of cultivation seems to be a distinct advance, inasmuch as he maintains life and virulence in the culture over a longer period than have other observers. His investigations are recent, and it is too early to state what the result will be. Experimentally, antipneumococcus serum seems to be of value. Practically, that it is of any great value does not at present seem to have been demonstrated, as the reported number of cases are too few; the series of any one observer too small. What the future of the serum therapy in pneumonia will be it is too early to say."

18. **Obstruction of the Common Bile-Ducts.**—Deaver describes the symptoms and conditions of obstruction of the common bile-ducts. His methods of surgical treatment and technique of operation are also briefly mentioned.

19. **Gall-Stones and Appendicitis.**—Ochsner analyzes his cases in which appendicitis and gall-stones were present. During four months beginning February 1, 1900, he operated on eighteen patients suffering from gall-stones, of these six, or one-third of the number, suffered from appendicitis at the same time. He notices the principal relations between these two conditions and emphasizes the importance of examining the appendix when operating for gall-stones. The larger part of his paper is given up to reports of cases.

20. **Etiology of Gall-Stones.**—Shattuck sums up the conclusions that seem to him justified in regard to the origin of gall-stones as follows: 1. A sterile foreign body does not lead to gall-stone formation, though a sterilized gall-stone may be penetrated by, at least, the colon bacillus. 2. The contents of the hepatic and cystic ducts, and also of the gall-bladder, are usually sterile. 3. The common duct not infrequently contains bacteria, a fact readily explicable by the relation of the duct to the intestines. 4. Gall-stones have been produced experimentally by a number of observers, with a number of organisms. Mignot failed with virulent cultures, while he succeeded with attenuated cultures, alone, or in connection with a foreign body. 5. The presence of bacteria has been demonstrated in connection with a considerable proportion of cases of gall-stones. 6. The clumping of the typhoid bacillus led Dr. M. W. Richardson to think this peculiarity might play an important rôle, and he produced gall-stones in a rabbit by the introduction of a small amount of a clumped bouillon-culture into the gall-bladder. 7. The colon bacillus and the typhoid bacillus are the most common bacterial agents in gall-stone formation. He infers from this that stasis of the bile is a very important factor in their production.

23. **Diagnosis of Medical and Surgical Diseases of the Liver and Biliary-Passages.**—In this article Musser reviews the condition and symptoms and points out some of the differentiating factors, the specially puzzling conditions of stenosis and obstruction of the gall-ducts and the various symptoms of cholelithiasis. He calls attention to the facts that gall-stones may occur at an earlier age than usually believed, and that pain may be the only symptom and it may be variously located. While jaundice may never be present, in other cases, rigor and fever may be marked and pain insignificant. Persistent localized tenderness of the gall-bladder region often elicited only on deep palpation when the patient takes a full breath is of great importance. The diagnosis of disorders of biliary passages from subdiaphragmatic abscess, appendicitis, intestinal obstruction and acute pancreatitis are particularly noticed.

24. **Lesions of the Pancreas Simulating Gall-Stones.**—Richardson's article is a lengthy one, with the report of a number of cases. He points out the conditions of the pancreas which may lead to a mistake in the diagnosis of gall-stones, and also the possibility of making a serious diagnosis of malignant pancreatitis when such does not exist. The methods of operation for diagnosis of these cases are described, but it is not practicable to reproduce them here.

26. **Medullary Narcosis in Labor.**—Marx reports in detail twenty-three cases in which he has employed the subarachnoid method of producing anesthesia in labor. He gives the usual directions as to technique and mentions the possible dangers of collapse and sepsis. He has never noticed any untoward symptoms. His average dose is about one-quarter of a grain, the smallest, one-sixth. The symptoms which follow the injections he thinks are not due to cocain, as they follow saline solution injections. Asepsis, of course, is absolutely essential and he insists on quiet during the operation, as apprehension is always present, and psychic pain, if not

physical, may be produced. The patient is constantly being reassured by the surgeon and others are requested to refrain from talking.

27. **Subclavian Deligation.**—Graves' method is to substitute the cord of the brachial plexus of the nerves for the deeplying scalenus anticus muscle as a guide in ligation of the subclavian artery. He thinks by using this the brachial cord is exposed more easily, and by passing the finger behind it less time will be consumed and fewer important structures endangered.

29. **Appendicitis Larvata.**—This term, introduced by Ewald, indicates appendicitis of a chronic, insidious character, which does not necessarily develop into a really acute attack. The patients complain of intermittent pain, disappearing after a long or shorter period, and are often first treated for intestinal colic, gastritis, etc., and with careful examination pain may be elicited by palpation, sometimes at McBurney's point, sometimes in the neighborhood of the navel, or often in other regions, and occasionally there is slight elevation of temperature. The danger is that it may be followed at any time by an acute attack threatening life. Thienhaus reports three cases which illustrate the possibility of diagnosing this condition. Concerning treatment, he says it must be recognized that only operative measures must be taken into consideration. They are indicated because there is no other means of correcting the existing pathological conditions, and the patient is in constant danger of an attack of appendicitis followed by peritonitis. Barnsby says that when the tip of the appendix is adherent to some abdominal organ with or without vascularization of its peritoneal serosa, there is absolute indication for operations. Furthermore, in young female patients one has to deal with the possibility of a subsequent pregnancy, and, as we all know that appendicitis in combination with pregnancy gives the most serious prognosis both for the fetus (abortion is practically inevitable), and for the mother, it is the physician's duty to explain to the patient the above-mentioned complication and to resort to radical treatment, that is, operation.

30. **Tuberculosis of the Skin.**—Ravogli reviews the different forms of tubercular manifestations of the skin, classifying them as those due directly to the tubercle bacillus, of which lupus and its varieties are a type, and those due to toxins, which he calls non-bacillary eruptions, and certain other eruptions, which have been called by Johnson paratuberculoses. He is inclined to include in this latter class scrofuloderma, lupus erythematosus, and certain kinds of eczema described by Unna and Bazin.

31. **Pathology of Skin Tuberculosis.**—Heidingsfeld reviews the pathologic conditions found in lupus—circumscriptus, diffusus, erythematosus, verrucosus, crustosus, phagedenicus and resolutivus.

32. **Treatment of Skin Tuberculosis.**—Internal medication is of little avail in tuberculosis of the skin, and the external treatment is, therefore, the only rational one. The use of caustics is less general than formerly; solid silver nitrate is most in favor. Others which have been recommended are salicylic acid plasters, arsenical paste, chlorid of zinc, pyrogallic acid, etc. The galvano-cautery in the form of punctures is sometimes satisfactory in small nodules, in the cicatrix and in mucous membranes. Excision is effective if the disease is small and circumscribed, though sometimes it may return even then. Thorough scraping of tuberculous areas with a sharp spoon or curette has had exceptionally good results. It is not, however, available where the nodules are deeply imbedded. Caustic potash may be applied later and the dental burr is sometimes used in destroying discrete tubercles. The other method mentioned is linear scarification, consisting of parallel incisions in the diseased parts, going down until resistance is met. Cross-incision is also made and the process is repeated from time to time until new growths are destroyed and cicatrization takes place. The objections to this treatment are its necessarily long duration and the difficulty of getting patients to submit to it.

33. **The Cell Doctrine.**—Fisch combats the idea of the importance of the cell to a certain extent, claiming that the cells do not form the organism, but that the organism forms the cell. He brings to support his view the facts of certain unicellular organisms of high development in the marine growths, the bridges between the cells which are found in the vegetable kingdoms and to some extent in animals. He maintains that the present cell doctrine we are advocating is encouraging a sort of dogmatism that should be deprecated.

40. **Renal Tuberculosis.**—From a careful study of cases personally observed, and others that have been collected in literature, of nephrotomy and nephrectomy for tubercular renal disease, Ramsay deduces the following conclusions: 1. That renal tuberculosis may be classed as a semi-malignant form of inflammation, and that for this reason surgical treatment of some sort is always indicated. 2. That this surgical treatment will have a palliative or a curative end in view depending on the condition of the patient and the duration and extent of the disease. 3. That nephrotomy in renal tuberculosis is to be classed as a palliative operation, and that as a palliative operation for the immediate relief of dangerous symptoms, and as not precluding a later nephrectomy, nephrotomy with drainage of the abscess cavity is most valuable. 4. That resection of the diseased part of the kidney is contraindicated in renal tuberculosis because of the danger of leaving a tubercular focus in the portion left in the body. 5. That nephrectomy or nephro-ureterectomy is indicated in every suitable case, and in suitable cases should be followed by a lasting cure in 55.5 per cent. of the cases. 6. That the indications against nephrectomy are tubercular or other disease of the second kidney, or tubercular foci in other organs. 7. That tuberculosis of the bladder is not to be considered a contraindication to nephrectomy, as it will probably heal later. 8. That a small tubercular focus in the lung, if the patient otherwise is in good condition, may sometimes not be considered a contraindication. 9. That in doubtful cases, when it is questionable whether the patient can stand an immediate nephrectomy, it is better to do a nephrotomy, following it later by nephrectomy. 10. That the clamp method of controlling the pedicle is contraindicated from the danger of hemorrhage after removing the clamp. 11. That it is the safest to remove the ureter with the kidney, as a persistent fistula may give trouble if it be allowed to remain in the body. 12. That a certain proportion of these fistulæ will finally disappear, either after the removal of a deep suture or because of the slow disappearance of the tubercular disease in the ureter, which in these cases gradually changes into a fibroid cord. 13. That we may expect a steadily increasing number of final cures as our means of diagnosis improve and as our surgical technique is carried out more carefully and scientifically.

42. **Mesenteric Cysts.**—Dowd reports a case of multolocular cystadenoma in transverse mesocolon containing pseudomucin, and discusses the whole subject of mesenteric cysts. His summary is given as follows: 1. The occurrence in the transverse mesocolon of a multilocular cystadenoma which contained pseudomucin, and which was exactly like a cystadenoma of the ovary, suggests its probable origin as an embryonic ovarian sequestration. 2. The occurrence of dermoid cysts in a similar position suggests a similar origin. 3. The occurrence of chylous cysts in the mesentery, which have the structure and appearance of ovarian and parovarian cysts, and which have in their walls lymph-vessels, suggest embryonic cysts into which there has been an effusion of chyle. 4. The sanguineous cysts appear to be preformed cysts into which hemorrhage has taken place; hematomata in the mesentery should not be described as cysts. 5. The presence of cysts which have the structure of the intestinal wall suggest sequestration from the intestine. 6. Serous cysts are apparently similar in origin and structure to the cysts already considered. They are usually not situated in the path of the lacteal vessels. 7. Hydatid cysts form a class by themselves and are due to the tenia echinococcus. 8. Reports indicate that mesenteric cysts are being removed at least as often as once a month. 9. It is probable that all mesenteric cysts may be included in the

classifications: 1, embryonic cysts; 2, hydatid cysts; 3, cystic malignant disease.

43.—See abstract in The Journal of August 8, p. 449.

44. **Prostatectomy.**—Mynter reports a case of prostatectomy in which he was able to do the whole operation through the perineum by extending the posterior end of the longitudinal incision from the bulbus urethræ to the anus, in a curve around the anterior half of the anus on both sides, when he dissected loose the curved flap containing the anterior wall of the rectum and exposed the prostate to sight. With a grooved stone-sound he made a median incision in the prostate posteriorly without opening the urethra, introduced the finger, entered capsule and enucleated with ease both hypertrophied lateral and middle lobes, meanwhile pushing the prostate down in the perineum with the hand above the symphysis pubis. Unfortunately, the posterior urethra was torn at one place by the finger against the sound and therefore he drained the bladder for seven days. He thinks, however, this accident can be avoided in other cases and that the operation thus performed will be an ideal one.

57. **Pelvic Inflammation.**—After first describing the condition, its symptoms and diagnosis, Ill passes to the treatment, which he thinks has been heretofore too exclusively surgical. In acute cases the cause should be considered, though it does not materially change the treatment, excepting in tuberculous cases. The patient should be kept in bed, bowels moved by salines every second day, diet be unexciting, pain controlled by ice-bags for a short time, hot vaginal douches with permanganate of potash solution (1 to 20000), small blisters over the seat of pain, and in some cases tamponing the vagina with iodoform gauze and applying cantharidal collodion on cotton to cervix if there is great sensitiveness to touch and swelling; the latter produces a very copious purulent discharge and should be removed in four hours and followed by douching several times a day. Then comes the use of a 10 per cent. solution of ichthyol in glycerin, applied in the evening and followed by a large vaginal douche before removing the tampon in the morning. The blisters may be resumed in five to eight days. For rectal tenesmus and discharges of mucus an opium suppository may be given; an opiate is in any case best administered by the rectum. Relapses are common from sexual excitement, cold, menstruation, etc. All these causes can be controlled excepting the menstrual period, and the author has been making a trial of the treatment suggested by Grammatikati for the control of this function and will report the results in the future. The treatment of the chronic form consists in an endeavor to produce absorption of exudate and adhesions and replacing of the displaced organs. He would paint the vaginal roof with tincture of iodin and apply a glycerin-ichythol tampon, and if the patient is found to tolerate it, add to the tampons until the vagina is firmly packed. They should be retained for forty-eight hours and withdrawn by a string. Two days following the removal the patient should be directed to take a large hot vaginal douche night and morning, preferably in the knee-elbow posture. In these cases he has also found much good from the Brandt method of massage. Pelvic cellulitis is also described and the treatment mentioned. It consists in the use of large hot permanganate of potash or lysol douches or weak mercuric bichlorid. The use of the ice-bag over the affected side, and in less acute cases, after the abrasion or fissure of the cervix is looked for, carefully cleansed and kept clean; thorough swabbing with hydrogen dioxid, followed by an injection of a 5 to 10 per cent. mixture of iodin in glycerin is usually sufficient. In tubercular inflammation, of course, the case is a surgical one from the beginning.

60. **Ureterointestinal Anastomosis.**—Peterson sees no special value in intestinal implantation of the severed ureters. In very few instances do the experimental animals overcome the infection and survive. Maydl's operation, which he prefers to call uretero-trigono-intestinal anastomosis, is favorably spoken of, and he thinks this method as modified by himself has been a perfectly justifiable surgical procedure in vesical extrophy. Uretero-intestinal anastomosis by the formation of permanent fistulæ connecting the bladder and rectum is also spoken of as somewhat promising, though he doubts whether it can ever be successfully made in cases of purulent cystitis due to enlarged prostate.

56.—See abstract in The Journal of September 13, ¶120, p. 976.

63.—Ibid.

65. **Hemorrhage After the Menopause.**—The causes of hemorrhage after the menopause are given by Davis as follows: 1. Granular endometritis, which can usually be relieved by aseptic curetting. 2. Atheroma of uterine blood-vessels, which offers but little prospect of relief, though changes in the diet consisting of an abundance of well-cooked meats and fruit might prove of benefit with tonics and alteratives. 3. Vasomotor relaxation is a possible source of hemorrhage, improvement of general health by the use of tonics, with special attention to the nervous system will cure this disturbance. 4. Uterine polypus should be readily recognized and promptly removed. 5. Uterine myofibroma covers too extensive a subject to be fully treated here. 6. The last cause, malignant disease, is the most important. He thinks that it rarely attacks the nulliparous uterus and generally involves some sore or old laceration, especially of the cervix. Such injuries, therefore, should be attended to promptly. He does not credit the employment of methods to prevent conception with having much to do with the existence of cancer. The earlier the operation is done, the better the chance; it is important to investigate early all cases of hemorrhage after the menopause, especially if there is any suspicion of malignant disease.

69. **The Prophylactic Douche.**—After noticing the change of views of recent years in regard to the use of this method and discussing the literature, Chapman says that he has been in the habit of using the preliminary prophylactic douche, but has been led by his studies to question the advisability of so doing unless there is some suspicion of gonococci. He is almost persuaded that the bacteria will meet with more timely neutralization without the primary douche than with it. After the completion of labor in the ordinary case, the douche is used until the third day, unless there is some indication for the same on account of offensive discharges. His success with the method has been very satisfactory.

76. **Cocain as a General Anesthetic.**—Murphy reviews the history of anesthesia by subarachnoid injections of cocain, giving credit to Corning for its origination, gives full directions as to the technique, and reports nine cases in which he has successfully employed the method. He has seen no serious accidents follow the anesthesia thus produced, though vomiting and headache may appear during the operation or some hours later and last some little time. He has also noticed some perspiration and pupillary dilatation, with temperature and rapid pulse, but they all disappeared within twenty-four hours. The important points are the thorough asepsis, use of aseptic material and the assurance that the needle has entered the spinal canal by seeing the cerebrospinal fluid flow clear before introducing the cocain.

82.—See abstract, vol. xxxv, p. 764.

83.—Ibid., p. 763.

84. Ibid., p. 764.

85. **Diabetic Coma.**—Ely argues in favor of the rather widely accepted theory that diabetic coma is an expression of an acid intoxication due to the presence in the body of B-oxybutyric acid in large quantities, and while he admits that the result of alkaline treatment has not been very satisfactory in the past, he reports several cases coming under his observation in which they have been very favorable. He is impressed by the difficulty which attends the administration of alkali, especially the risk of favoring intestinal putrefaction, and insists on the importance of careful scrutiny of the condition of the bowels and digestion in these cases. He would warn against the too-rapid withdrawal of carbohydrates in patients suffering from diabetes, as this may favor the development of coma from the readiness of proteid food to yield acid in its decomposition.

The alkali treatment should be instituted prior to the reduction of carbohydrates and they should be carefully withdrawn.

87. **Koplik's Spots.**—From a study of 140 cases of measles, Maroney thinks they prove conclusively that the presence of Koplik's spots is an absolute pathognomonic sign of measles, from which a positive diagnosis can be made at an early stage of the disease. They appear in the great majority of cases before the appearance of any skin eruption and in almost one-half the cases before any coryza or conjunctivitis, and their recognition affords an early means of isolation and offers a means of limiting if not aborting epidemics in hospitals and institutions.

90. **Tattoo Marks.**—Ohmann-Dumesnil describes his method of removing tattoo marks, which is an application of a bland solution of the vegetable ferment caroid especially prepared for use as a physiologic solvent, which is poured over and rubbed into the tattooed surfaces and then the spot is covered with two or three layers of gauze soaked in the solvent. In a few days, when the latter are removed, the tattoo marks appear light and hazy. Very shortly afterward some crusts appear and when they fall off all trace of the tatoo is gone.

97. **The Specific Gravity of the Blood.**—Busch, Kerr and Filsinger, the authors, give the results of their experiments to test the specific gravity of the blood and tabulate some eighty-eight cases in regard to the value of the blood-count, hemoglobin, etc., in connection with the specific gravity. They summarize their conclusions as follows: 1. In most cases the specific gravity and the percentage of hemoglobin of the blood present such a close relationship to one another that the latter may be predicated from the former with sufficient accuracy for clinical purposes. 2. Both v. Fleischl's and Gower's instruments are liable to an error of 10 per cent. or more. 3. There is liable to be very slight, if any, error in the determination of the specific gravity by Hammerschlag's method.

101.—See abstract, p. 763.

104.—See abstract in The Journal of July 14, p. 117.

105.—Ibid.

106.—Ibid.

107. **Suprapubic vs. Vaginal Section.**—Benjamin insists on the greater advantage of performing abdominal section over the infrapubic operation and quotes a number of authorities in support of his view. The chief advantage is the ability to make a more thorough operation, to discover complicating conditions and to meet the complications. He offers in conclusion the following as his suggestions in regard to the matter: 1. The abdominal operator has the advantage of sight, touch and access to the disease. 2. He is able to explore the whole abdomen for visceral disease. 3. He can do careful, complete and conservative work. 4. There are few diseases of the female pelvis, except certain abscesses, operable from below that are not best treated from above. 5. Surgery of the female pelvis should be the practising of good surgical sense and not fads.

113. **Tuberculosis.**—The usual facts in regard to precautions and prophylaxis are reviewed and the author gives his own treatment somewhat detailed. He thinks the ordinary cases, with no throat complications, are benefited by altitude, but every case should be studied by itself in this regard. Advanced cases should never be sent away from home. Cases with catarrhal complications do best with a climate of a lower elevation. He has had no experience with the pneumatic cabinet, but takes the opinion of others that it is a valuable adjunct. The cool morning bath is often of advantage, and he would shut off the use of tobacco from tuberculous subjects. The diet should be nutritious and digestible. The teeth should be carefully looked after. For tonics he suggests cod-liver oil, arsenic and iron, which last he prefers in the form of ferratin; the creosote derivatives in combination with strychnin sulphate are the drugs with which he has had the best results. He prescribes the following formula:

℞. Strychnin sulph........................gr. ss.
Guaiacol carbonate..........................ʒii

M. Ft. caps. No. xxiv. Sig. One twenty minutes after meals.

He also uses the inhalation of a 40 per cent. aqueous solution of formic aldehyde, using 20 to 40 drops on a piece of cloth twice daily. For night-sweats he finds camphoric acid of advantage when atropin and other drugs failed. For cough he gives codein sulphate in combination with chloroform and wild cherry. For vomiting, cocain and menthol. For intercostal neuralgia, hot-water compresses, counter-irritants, etc. For hemoptysis hydrastis canadensis, morphin, ice, etc. For fever, lactophenin, phenacetin and acetanilid. Nux vomica, cinchona, etc., are often useful. In advanced cases there is little to be done. He believes the disease is curable under certain conditions. If we can encourage the patient to hope for recovery we have done much.

114. **Prophylaxis of Shock.**—Shock consists of central nerve depression due to too severe or too long continued stimulation showing itself in the symptoms referable to three causes: 1. Vasomotor paralysis. 2. Respiratory paralysis. 3. Cardiac paralysis. The distinction between collapse and shock insisted on by Crile is noticed. To prevent shock in severe surgical operations, the first thing is to give the patient rest and the patient should be insured ample sleep for a few days preceding, and the preliminary purgation be completed twenty-four hours prior to the operation. Cardiac stimulation can be used to advantage in patients suffering from functional or organic disease of the heart. All respiratory troubles should be relieved as much as possible and lowered vascular tone be improved by constitutional remedies. Morphin injected is a help in many cases and may be used in ¼ gr. doses twenty minutes before giving the anesthetic in combination with atropin and strychnin. Threatened respiratory failure can often be avoided by stopping the anesthetic and inverting the patient. Ammonia is an efficient stimulant and acts immediately. Inhalations of amyl nitrite are of value when sudden collapse threatens, though contraindicated in profound shock. Saline infusion is the most satisfactory method of avoiding shock and is an efficient prophylactic. Speed is of importance in operation.

115. **Acute Tympanic Abscess.**—Landfried reports a case with the absence of the ordinary acute tympanic signs of suppurative mastoiditis following abscess of the middle ear from which he deduces that we had better depend on the presence of the continuous flow of pus through the perforated drum in determining the possibility of mastoid complications rather than on the intensity of the acute objective signs ordinarily seen with such complications. He also points out the danger of delay in operating on mastoid cases occurring late in the history of otitis media where suppuration has been continuous, and the need of proper equipment of the doctor who has to treat such cases. His own conclusion was to err, if to err is necessary, always on the side of incising the drum. A large incision made early is one of the most conservative things he knows of in surgical practice. It is not safe to chisel only into the mastoid antrum. The complete carving of the mastoid processes, even if the sinus should be exposed, had better be done. The case also illustrates the value of the aseptic aspirating needle in determining whether or not it is imperative to open and flush the lateral sinus or to ligate the jugular vein. Where there is no thrombosis the blood will flow through the needle passed into the sinus. Prognosis in any case of running ear is uncertain as regards complications until the discharge has completely ceased.

122. **Epigea.**—Aaron suggests epigea as a remedy for gastric eructations. Although the plant has not been recognized officially, it has received some attention. Three glucosids have been isolated, namely, arbutin, ericolin and urson, besides other substances. He has had some very happy results from its use, but is not able to say to which one of these principles the therapeutic value is due. The plant is well known, being the common trailing arbutus.

FOREIGN.

The Lancet, September 22 and 29.

The Etiology of Rheumatic Fever. Frederick J. Poynton and Alexander Paine.—The authors first review the history of the microbic theory of rheumatic fever, showing how complicated and uncertain the present state of the bacterial theory of rheumatic fever still remains. They recognize five different views as held: 1. Allowing that the disease is microbic it is held that there is no specific micro-organism, but that it is a form of septicemia due to staphylococcic and streptococcic infection. This they do not find supported sufficiently to be probable, considering the absence of suppuration. The second view is that rheumatism is due to a specific diplococcus; the third, that its cause is a specific bacillus. The fourth raises the question of mixed infection of bacilli and cocci as in diphtheria, but the authors consider this is unsatisfactory. The last view holds that rheumatic fever is not a disease *sui generis*, but a particular reaction of tissues to other infections. To summarize their own view they think it more probable that the micro-organism is always present in rheumatic fever, that it is capable of isolation, and that it may produce similar symptoms in suitable animals, and that it will probably exhibit some definite peculiarities on culture. They also think that it would be a simple and not a mixed infection. Their investigations are given in detail and the diplococci which they found, described, with the experiments on rabbits, in which the symptoms of the disorder were reproduced. The authors are not as yet in a position to state thoroughly all the morphologic characteristics of these micro-organisms, but they ascertained the following details: I. They are minute cocci associated in pairs varying in size but averaging .5 of a micron in diameter. 2. In liquid media they grow in chains. In solid media they grow in masses that resemble the staphylococci. 3. They are both anaerobic and aerobic. The authors find the best culture-medium to be milk and bouillon slightly acidified with lactic acid, and the organisms grow rather better in the anaerobic than the aerobic tubes. They believe that there is little doubt of their identity with those discovered by Triboulet in 1897 and Wassermann in 1899. They can not say that it is the sole cause of rheumatic fever in view of the statements of Achalme, Thiroloix and others. There is a strong clinical likeness between rheumatic fever and the disease produced by this diplococcus in rabbits. The diplococci are found in the tonsils, in the cardiac valves, pericardium, and in the nodules of fatal cases of rheumatic fever, and Poynton and Paine have also isolated them from the joint exudation, heart blood and kidneys of rabbits as well as from the liver and lungs. The demonstration of these organisms in man is not easy. This they lay to the fact that rheumatic fever is essentially a disease in which there is great resistance; even in fatal cases the reparative processes are often well defined at the site of some of the local lesions and the tissues in which they are found are more difficult in structure to investigate. In concluding their paper they remark that the term "infective endocarditis," which has been for some time under suspicion, can not be used longer in contradistinction to "rheumatic endocarditis" for both are plainly infective. They believe that their investigation has made the relation of malignant endocarditis, as they prefer to call it, to rheumatism much clearer. In simple rheumatism the diplococci are not found at first on the surface of the valves, and the disease tending as it does to recovery, they are destroyed by phagocytosis and possibly in other ways, the valve undergoing sclerosis. In the malignant type they reach the free surface and multiply with great rapidity and if they are detached by force of the blood-stream they may possibly give rise to a condition of rheumatic septicemia recognized clinically as malignant endocarditis.

British Medical Journal, *September 29.*

A Discussion on Influenza as It Affects the Nervous System.—The discussion was opened with a paper by Dr. Judson S. Bury, who called attention to the nervous system in influenza, stating that we assume and have proof that in this condition the brain tissues are attacked by bacilli in the first group of cases he considered. The disease develops during and after the febrile stage, sometimes being the sole representative of the effects of the influenza poisoning; meningitis and hemorrhagic encephalitis are the best examples of this type. In the second group are placed nervous diseases which usually occur after the attack has subsided; neurasthenia and multiple neuritis are examples. Here it is assumed that the toxins produced by the bacilli are more dilute and less virulent than in the first group. The division is not strictly correct, but is convenient from a clinical standpoint. Of the nervous symptoms belonging to the first group he notices first the comatose type. An examination of the brain may reveal nothing abnormal, or there may be congestion and even purulent meningitis with or without an encephalitis. The meningitis may accompany encephalitis or may exist secondary to a purulent otitis. The delirious attack is another manifestation; in contrast to the drowsiness and unconsciousness there is restlessness, irritability and delirium, and even mania. Cases of both kinds were reported. Spinal paralyses have been also noticed, and in rare instances show themselves during the attack. They may constitute, as in the cerebral type, its salient features. Of the second group he notices and reports cases of local and more or less general paralysis involving the spinal cord and nerves, as well as neurasthenias occurring as sequelæ to influenza. The discussion on this paper was quite general and was participated in by Drs. Broadbent, Allbut, Eade and others. Dr. Allbutt agreed with Bury in thinking that the frontal cerebral lobes are preferentially attacked by influenza.

A Discussion on the Problems of Gastric Ulcer.—Payne opened the discussion by giving the statistics of St. Thomas' Hospital, and assuming that the first problem of gastric ulcer is whether it is increasing; he thinks it really no more prevalent than formerly. The second problem refers to diagnosis. He thinks that pain is not often characteristic or typical; in a number of cases it was not even mentioned, and in one fatal case it was positively stated that there was no pain whatever. Hematemesis, the only characteristic symptom, was definitely recorded in but seventeen out of forty-eight fatal cases. As to hyperacidity, which has been made much of lately by some German physicians, he has nothing to say at present, as he has not been willing to wash out the stomach in suspected gastric ulcer. The general conclusions seem to be that while hematemesis is accompanied by other gastric symptoms as the most trustworthy sign, it is not absolute and may be due to many other causes. As to whether we can draw a clear distinction between acute and gastric ulcer, he is inclined to answer in the negative. The etiology of gastric ulcer is discussed, and he holds that there is no evidence in favor of the bacterial origin. The theory that it is due to disturbed innervation seems hardly worth considering. The hypothesis of hyperacidity might account for the continuance of the ulcer, but not for its commencement. Payne therefore concludes that we have not at present a very plausible explanation of the origin of the lesion. The predisposing causes are also questioned by him. He does not find that it is so exclusively met with in the poor and the female sex, among servant girls, etc., as generally held. As regards its prognosis, the acute ulcer tends to recover, so that in the young the prognosis is relatively good, but in chronic ulcer it is not so favorable and the only difference between the acute and the chronic disease is in its duration. During treatment he prefers to have water taken by the mouth, as it is less likely to do harm than in the reverse course, and it certainly assists the patient to go longer with rectal feeding. In conclusion he asks if acetonuria is a frequent accompaniment of rectal feeding. In the discussion of Payne's paper Gordon believed that the microbic theory of the origin of gastric ulcer explains the facts better than any other.

The Origin of Gout. William Ringrose Gore.—The author combats the uric-acid theory of the cause of gout, though the blood always contains uric acid, but whether it increases in the acute attack is very doubtful. Its presence is only a symptom and would be produced by the action of the digestive toxins on the liver. His conclusions are that gout is not due to the presence of uric acid in the blood, but these symptoms are due to toxins and this toxin is formed by the action of one of the intestinal bacilli on the intestinal secretion specially altered by diet, and this alteration is assisted by hereditary predisposition.

Subcutaneous Saline Infusions in Pneumonia. William Ewart and Beaumont Percival.—Cases are reported bearing on the question of the value of saline subcutaneous infusions in pneumonia, especially in connection with the results published by Dr. Clement Penrose, of Baltimore. They classify cases as regards their prognosis into two groups: 1. Those likely to recover. 2. Those almost sure to be fatal. The first group does not lend itself to any profitable therapeutic investigation, but there is still a third class with uncertain and serious, though not hopeless, prognosis, which may test thoroughly the therapeutic methods. The cases here reported were all selected on account of their gravity, and injections in all were administered with strict antiseptic precautions. In one of the six recovery took place, the others died. Briefly stated, the practical conclusions are as follows: 1, in the severe cases treated no unfavorable results were observed from the saline infusions; 2, these seemed to delay rather than to accelerate the fatal termination; 3, they were not resented by the patients, and by some of them they were acknowledged to be comforting; 4, they were powerless to check the fatal course of the pneumonia in the worst type of cases; 5, they do not seem, except in Case 4, where no pus but clear serum exuded from the cut surface of the gray hepatisation, to have made any difference in the characteristic appearances of the pulmonary changes. At the same time, while the results have been disappointing, they do not suffice to prove that saline infusions are absolutely useless. A different combination, a larger bulk, or a greater frequency of administration might lead to very different results. The cases reported were exceptionally severe, and may have been incapable of recovery. "The effects noticed were, nevertheless, in our estimation, such as to recommend the method for a more extensive trial in cases with anxious prognosis; for among them cases may occur which are not of the worst type, and in which an installment of relief, such as that observed in some of the cases reported, might be sufficient to save life."

Consanguinity as a Factor in the Etiology of Tuberculosis. Charles A. Davies.—Davies discusses the subject of consanguinity in its relation to the etiology of tuberculosis, from the study of facts as shown in the Isle of Man. This is a small territory where intermarriage has taken place to a great extent, varying, however, in certain localities, which fact aids in this study. Its mortality from tuberculosis is very high, the annual mortality being 25.7 per 10,000; roughly speaking, this is about double the rate prevailing in England and Wales. The climatic conditions are eminently favorable to life. The sunshine is greater than in most parts of the British Islands. The winds are similar to those on the mainland and the combination of mountain and sea air seems to be conducive to health, and Davies thinks that the whole climate is eminently suitable for the treatment of lung disease. The soil is dry and fairly well drained and he has not come across a single case of malnutrition due to poverty. As a rule the natives are well nourished in body, and happy and contented in mind. The two chief occupations are agriculture and fishing, though many of the men follow the calling of mariners, and there is a little lead-mining. There is no excuse for the high amount of tuberculosis other than consanguinity; in one parish where the inhabitants have long been comparatively isolated from the other parts there is a notorious amount of consumption, and a remarkable freedom from it prevails in another region where the condition in this regard is the reverse. After a careful study of the whole question, he has come to conclude that the chief factor in the production of tuberculosis in the Isle of Man is consanguinity.

Archives Gen. de Medicine (Paris), August and September.

Importance of Arterial Pressure in Anesthesia. S. Duplay and L. Hallion.—Death in chloroform or ether anesthesia is due primarily to the reduction of the arterial pressure caused by the drug. The phenomena noted in the arterial pressure and the pulse are not such as are observed in asphyxia. Extensive experimental research on dogs has shown that the reduction of the arterial pressure to zero and complete suppression of the heart-beat are preceded, it is true, by a complete syncope of the respiration, but the drop in the arterial pressure has already commenced its downward course before the respiration is suspended. If this reduction has progressed beyond a certain point it is impossible to arrest and restore it, but within this limit it is possible by suspending the administration of the chloroform or ether and by artificial respiration to arrest the drop in the arterial pressure and bring it back to normal. The immediate factor of death, therefore, in chloroform or ether anesthesia is the diminished arterial pressure. Consequently, if we register and watch the condition of the arterial pressure during anesthesia, we will be kept informed as to the effects of the poison in the system and be able to graduate the necessary intoxication and keep it inside the danger limit. "Nothing is easier and more harmless than to administer chloroform to a dog indefinitely if a manometer is applied to an artery and the register watched for the slightest indication of danger." In one of the curves cited the amount of chloroform was graduated to keep the arterial pressure between 10 and 13 cm. mercury. No information derivable from the pulse, the respiration nor the corneal reflexes would have allowed such accurate regulation and such complete absence of danger. The harmless zone is easily established. Once past this zone the reduction in the blood-pressure irremediably continues its downward course. Other points mentioned in this article are that artificial respiration has probably a massaging effect on the intrathoracic vessels, and that direct digital massage of the heart might prove useful in raising the blood-pressure when restoration by all other means has failed.

Spontaneous Rupture of Gall-Bladder. S. Machard.—In the 39 cases of rupture of the gall-bladder on record, 22 were caused by lithiasis, 10 by typhoid infection, 3 by infectious icterus and 4 were of unknown origin. Machard describes a fatal case in which the dilatation and rupture of the organ was due to adhesive supra-umbilical peritonitis, associated with perivisceritis, liver and lung affections and interstitial nephritis. If diagnosed in time, cholecystostomy offers the best chances for intervention. In all cases of dilatation of the gall-bladder with peritonitis, spontaneous improvement should not be awaited, as perforation is liable to occur at any moment.

September

Typhoid Fever in the Course of Active Syphilis. G. Etienne.—In the writer's experience of 600 to 700 cases of typhoid fever, five extremely severe cases were observed to occur in patients with concomitant active syphilis. In another case multiple exostoses developed a few months after a typhoid fever in a syphilitic. The evidence seems to show that active syphilis aggravates the course of typhoid fever and is not attenuated by the latter, as some claim.

The Diabetograph. F. Coulhon.—A graduated glass tube with a stopcock at the lower quarter, below which the tube tapers to a point, is the simple apparatus with which it is possible to estimate the exact amount of sugar in the urine without any calculation. Experience is confirming its mathematical precision and rapid and easy manipulation. The tube is filled with urine to a certain point, and 2 c.c. of Fehling's solution are boiled in another vessel, diluted with five or six times its amount of water. The urine is added to the reagent by turning the stopcock at the bottom of the tube. When the reaction occurs in the solution the figure on the tube to which the urine has fallen indicates the amount of sugar in a liter of urine. The graduation on the tube is calculated according to the fact that when one volume of urine reduces an equal volume of Fehling's solution, there must be 5 gm. of sugar in a liter of the urine.

Echo Medical (Lille), September 6.

Antagonism Between Typhoid Fever and Syphilis. Mariau.—Among the points discussed at the International Medical Congress was the tendency of typhoid fever to attenuate a pre-existing or simultaneous syphilis. Ducrey stated that it extinguished the syphilitic infection and Julien reported the case of a patient with a typical primary indurated chancre who was taken with typhoid fever. The chancre rapidly healed and during the twenty-five years since he has never had any further manifestations of specific infection. Mariau, on the other hand, has observed a case in which severe primary syphilis was ameliorated to practical recovery by specific treatment. After a year of health the patient contracted typhoid fever with two relapses. *During his convalescence a new* specific eruption appeared on the trunk, indicating a revival of the syphilitic process. Mariau therefore warns that concomitant typhoid fever is no reason for neglecting specific treatment.

Gazette Hebdomadaire (Paris), August 19 and September 13.

Forcible Reduction of Hump in Pott's Disease. A. Broca.—Fifty-five out of the 83 cases of Pott's disease treated by Broca date from more than a year ago. Forcible reduction during horizontal traction was done in 46, with the immediate application of a plaster cast embracing the thighs and part of the head, during suspension in narcosis. Of the entire method of forcible reduction introduced by Calot, nothing has survived except the application of the cast in suspension. The hump has returned in every one of Broca's cases except in 10 fresh ones, in which the traction alone was sufficient to straighten the spine. *He considers two or three months of dorsal decubitus* indispensable, with at least a year of immobilization.

September 13.

Immunity of One Twin to Infection. Cuche.—One twin is apt to be weakly, to bear the entire burden of inherited infection, tuberculous, syphilitic, etc., while the other twin is exempt. Cuche states that this has occurred with such regularity in his experience *that he is inclined to suspect some* law regulating the phenomenon.

Semaine Medicale (Paris), September 28.

Physiologic Action of Mountain Climate. J. Jaquet.—The effect of altitude on the blood was tested in a series of experiments on rabbits. It was found that reduction of the atmospheric pressure equivalent to 100 mm. of mercury was sufficient alone, apart from any other factor of mountain climate, to change the composition of the blood in the same way as is observed after a trip to the mountains. The total amount of hemoglobin increased 20 per cent. Six rabbits, before the test, averaged 5,530,000 red corpuscles and 12.7 per cent. hemoglobin. The reds increased by the end of four weeks to 5,749,000, and the hemoglobin to 12.97 per cent. Six others under the same conditions in every respect, except that the air was rarefied to correspond with the atmospheric pressure at Davos, showed an increase of red corpuscles from 4,552,000 to 6,091,000, and of the hemoglobin from 11.54 to 14.40 per cent. The total amount of hemoglobin corresponding to one kilogram of the animal's weight was, at the close of the tests, 23.7 per cent. more than in the control animals. The dryness, cold and other features of high altitudes, tested separately, had no appreciable influence on the composition of the blood. Jaquet also experimented on himself and a companion. For four weeks all the food was analyzed and exactly the same quantity taken each day. The first seven days were spent at Basle, then thirteen at Chasseral, in the Jura mountains, at an elevation of 1600 meters, concluding with seven days after the return to Basle, omitting from the calculations the trips to and from the mountains. Each day the urine and feces were weighed and analyzed. The interesting results are tabulated in full. They demonstrate that the modification of the blood and the metabolism of nitrogen closely parallel each other. The increase in the red corpuscles and in the hemoglobin during the stay in the mountains was accompanied by a marked decrease in the nitrogen eliminated. After return to the lower altitude the reds and the hemoglobin gradually diminished, while the elimination of nitrogen increased in inverse proportion. The amount of nitrogen retained by the organism was much more than could have been required for the neoformation of the elements of the blood. *This suggests that the action of altitude* is not restricted solely to the blood-formation, but that it may induce a partial protoplasmic regeneration throughout the organism, conferring new vitality and resistance on other elements besides the blood. He states that this general modification of the tissues affects also the respiratory interchanges, as he will describe in a later communication.

Berliner Klinische Wochenschrift, September 27.

Etiology of Chronic Edema. H. Rosin.—A woman of 42 presented a typical case of progressive, simple, diffuse edema of the skin without participation of any organ in the morbid process. *Abnormal permeability of the vessels* is the probable cause, such as Senator accepts as the cause of hydrops-anasarca in renal affections. Magnus has artificially induced edema of the skin by hydremic plethora in experiments on animals with certain toxins.

Polyneuritis Consecutive to Malaria. C. A. Ewald and Baumstark.—Motor paralysis and atrophy of the muscles were observed in three cases consecutive to malaria contracted in Kameroon. One case developed a rapidly fatal Landry's paralysis. The central nervous system was found intact, confirming the assumption that certain kinds of paralysis are primarily due to an acute polyneuritis in the peripheral nerves. In another case the polyneuritis was accompanied by mental confusion.

Centralblatt f. Bakteriologie (Jena), August 22 and September 4.

The Mechanism of Infection. A. Radzievsky.—A fatal infection in animals is not due exclusively to the multiplication of microbes. Large numbers are destroyed by the juices of the organism, sometimes entirely outside the cells. The organism is not passive in infections, but takes an active part, producing substances to destroy the microbes. When they are killed and dissolved their toxins are liberated and to this is due the clinical aspect of the infection. The organism reacts the same to a fatal as to a non-fatal infection. The difference is merely the amount of the final intoxication. The increase in the virulence of microbes after passage through animals is due to the tendency of the juices to destroy them.

To Free a City from Mosquitoes. C. Fermi.—The organized efforts which resulted in freeing the city of Sassari from mosquitoes have already been described in The Journal, xxxiv, p. 1576. Fermi remarks that it is unnecessary to use more than 5 c.c. of petroleum to a square meter of surface in killing the larvæ in water, and that, as they require fifteen to twenty days to develop, *renewal of the oil is not necessary for* fourteen days. He mentions that Mionte, in Ionia, and Pergamo, in Asia, were abandoned by the inhabitants in ancient times on account of the numbers of mosquitoes.

Protection of Man Against Mosquitoes. C. Fermi.—There is very little prospect that any chemical means of warding off mosquitoes will prove effective. Out of the countless substances tested, only the fumes of chlorin and ammonia, and wood and tobacco smoke proved to have any effect.

Prophylaxis of Malaria. E. Di Mattei.—Four workmen, who had never had malaria, were brought from Catania to Valsavoia every evening at 5:30. They were hurried from the train, a few steps, to a large two-roomed building, where they spent the night, and were taken back to Catania for their day's work next morning at 7:30. The numerous windows and the door were all open, but closely screened. The inside walls were white, to detect any mosquito that might force an entrance when the door was opened to admit the men and then closed until the next morning. Di Mattei accompanied them every night. The experiment lasted thirty-three days and none of the party showed the least trace of malarial infection at any time. No quinin nor medicines of any kind were administered. Valsavoia is one of the most notoriously malarial spots in Sicily.

Cntralblatt f. Kr. der Harn u. Sexual-Organ (Leipsic), September 15.

Primary Carcinoma of the Urethra. Hottinger and Oberlaender.—The first symptom of the lesion was a discharge from the urethra in the four cases reported. They raise the total number of cases of carcinoma of the urethra to twenty. The benefit of operation is evident. The two operated on are in good health now, 3 and 4½ years later. In one case the carcinoma occurred in a diabetic.

Deutsche Medicinische Wochenschrift (Leipsic), September 20.

Morphology of Bacteria an Indication of Their Virulence. H. Marx.—The small, spherical, metachromatic bodies first observed in the bodies of bacteria by Babes and Ernst are not found in all. Research at von Bergmann's clinic, described in this article, has demonstrated that these Babes-Ernst bodies are the result of the condensation and localization of the euchromatic substance of the bacterial cell, and that this euchromatic substance is the germ-plasma, while the rest of the cell is merely the nutritive plasma. When the bodies occur in many or all of the individuals of a species they indicate that this species is at its highest point of vital and functional activity and living in its natural environment. The further removed the generation from this environment, the fewer bodies are found, but they increase again on return to it. When the vitality is most intense the bodies are the smallest and stain most decidedly, while the rest of the bacterial body stains the least, probably because all the euchromatic substance is included in the bodies. When the species is in a pure culture, apart from injurious influences, such as bactericidal secretions and danger of being overwhelmed by another species, it becomes torpid and loses its energy, its specific virulence. It can be aroused, however, even when half dead, and stimulated to renewed vital and functional vigor by being passed through the body of a living animal or by symbiosis with other bacteria on a plate of agar-agar. The bacterium, as soon as it enters the circle of existence of another organism, has to put forth all its energies to maintain itself in the struggle for existence, and the exertion of all its powers is shown in the formation of the Babes-Ernst bodies in its interior. These discoveries suggest that infection is in its essence the vital expression of the parasitism of a microbe in its highest potency, and that the route from the condition of a saprophyte to that of a parasite leads through morphologic transformation. We can watch a bacterium traveling this route when we pass specimens with rare Babes-Ernst bodies through a living animal which succumbs to them. When they emerge every individual contains one of these bodies. Or, again streptococci and other bacteria may be present in human saliva, with the bodies rare. If erysipelas of the face ensues, the streptococci will be found more numerous in the saliva and every coccus will contain a Babes-Ernst corpuscle. Marx therefore deduces from his extensive research on numerous species of bacteria that a bacterium accomplishes its transition from a non-infecting non-virulent to an infecting virulent micro-organism by the occurrence in its body of the condensation and localization of the euchromatic substance, which leads to the formation of the Babes-Ernst bodies. The number of individuals containing these corpuscles is therefore a measure of the virulence at the time, and the capacity of the cells to form these corpuscles is the criterion of their future virulence. He is now engaged in research to determine the factors involved in the production of this capacity. He begs others to test his assertions with fresh pus, sputa, etc., employing the technique he described in his first communication on the subject in the *Cbl. f. Bakteriologie*, July 11 to August 9, 1900, Nos. 1 to 5: Thickly spread and dried cover-glass preparations mounted in balsam, after having been passed three times slowly through a flame, are treated first with methylene blue—mixed Loeffler's, alcohol-aqueous and acetic—for five to ten seconds, then rinsed briefly with water and stained with bismarck brown—vesuvin—at 2 per thousand, for fifteen seconds. No special heat is applied. The bodies in the bacteria stain from deep blue to bluish red. The rest of the body is brown. As the bodies take the stain more readily and more intensely the greater the virulence of the bacteria, examination of their behavior to the stain is direct evidence of their virulence and of the gravity of the infectious process whence they were derived.

Therapie der Gegenwart (Berlin), September.

Treatment of Cholelithiasis. B. Naunyn.—In this review of the modern consensus of opinion in regard to the treatment of cholelithiasis, Naunyn states that he has observed four recurrences after operations for removal of gall-stones. He favors measures to soothe instead of stimulate peristalsis, and believes that Carlsbad waters probably owe their effect to the increased supply of blood in the abdominal organs which they induce. Their benefits can be enhanced by the application of heat, cataplasms or the thermophore, to the liver.

Important Relations of Fat Food to Gastric Functions. H. Strauss.—Hyperacidity of the stomach and disturbances in the motility are favorably influenced and to a marked degree by fats, and especially milk fats, cream and butter. Large amounts of milk fats diminish the gastric secretions, but do not prolong the length of time the ingestum remains in the stomach nor interfere with intestinal digestion in hyperacid patients, who always relish these fats better than large amounts of carbohydrates. During the last three years this method of treatment has been almost constantly followed at Senator's clinic in cases of ulcus ventriculi, hyperacidity or motor insufficiency. One patient throve well on two quarts of milk a day and half a pound of butter. A colleague with ulcus promptly gained twenty pounds in weight.

Sanatorium Treatment of Tuberculosis. S. Kaminer.—The most important factor in sanatorium treatment is an early diagnosis, and for this reason Kaminer urges compulsory examination of members of sick-benefit societies four times a year.

Oil in Case of Stenosis of the Pylorus. Cohnheim.—Oil relieves the contraction, is healing and nourishing and is an invaluable aid in case of stenosis of the pylorus. He gives 200 to 250 gm. of warm olive-oil in three doses, or all at once, one hour before meals, by the mouth or through a sound.

Wiener Klinische Wochenschrift, September 20.

Inhalations as Preventive of Scarlet Fever and Measles. J. Elgart.—The author's experience has convinced him that the throat affection in exanthematous diseases is primary and in reality the essence of the disease. He consequently reasoned that prompt sterilization of the throat would abort or prevent the disease. He is assistant physician at a large children's hospital where epidemics of scarlet fever and measles have been of frequent occurrence, children succumbing who had entered the hospital merely for ear or eye troubles, etc. In 1897 he inaugurated a system of inhalations, requiring every child to stand for five minutes in front of a spray apparatus and inhale the spray for five minutes twice a day. The disinfectant used was a 3 per cent. solution of boric acid or lime-water, or iodin trichlorate in a .05 per cent. solution. The number of children thus treated was 214, and not a single case of either scarlet fever or measles occurred during the year. During a temporary absence the inhalations were suspended and three cases of scarlet fever or varicella developed. On his return the inhalations were resumed and there has not been a case since to date. He observes that it is less expensive to sterilize the nose and throat of the patient than to disinfect a suite of rooms. If the experience of others confirms his results, we can assume that inhalations of a disinfectant fluid will prevent epidemics of scarlet fever and measles, at least when the type of the epidemic in the environment is mild. In 510 cases previously noted in the hospital the presence of an angina is mentioned in every case except eight. In two of these no inquiry was made in regard to the condition of the throat and in the rest not until about the sixth day, when a pre-existing angina might have had time to subside.

Klinitchesky Journal (Moscow), August.

Experimental Medicinal Cure of Gall-Stone Affections. N. D. Titoff.—Tests on nine large dogs are described in which the gall-bladder was incised and one or two human cholesterin calculi inserted. The wound was then closed and efforts made to dissolve the calculi by medicinal measures. They were successful beyond anticipation. If confirmed by future experience the fact is established that gall-stones can be artificially dissolved by way of the intestinal and biliary passages. Three Pravaz syringefuls of a mixture of 1 part ether to 2 parts benzol were injected per rectum. The injections were well retained and no local nor general unfavorable symptoms were observed. Traces of cholesterin crystals could be found in the bile aspirated even as soon as a half hour afterward. The stone had lost 16.5 mg. in weight when the animal died, two weeks after these injections had been inaugurated, in one case. These experiments demonstrate that the medicinal treatment of gall-stones has a solid foundation and that the only problem is to administer the benzol or other dissolvant in the least irritating form, possibly as terpin hydrate with euchinin or turpentin and quinin. In some of the experiments no medicine was used, but the stone diminished .013 to .01545 mg. The chloroform given during the operation may have been responsible in one case, but in the other no chloroform was used. This result seems to indicate that the natural bile of dogs is able to dissolve cholesterin calculi in certain cases at least.

Anales de Oftalmologia (Mexico), September.

Ocular Affections in the Negro. Santos Fernandez.—This number of the *Anales* contains a full report of the ophthalmic section at the International Medical Congress, in which Santos Fernandez took a prominent part. He stated, among other communications, that the negro is comparatively exempt from ocular affections, and especially from disturbances of the lachrymal canals, which are unusually large. In his experience during the last twenty-five years in Cuba he has only had 3003 negro and 2528 mulatto patients out of a total of 28,000 ophthalmic cases. He adds that the negro seems to be comparatively immune to affections of all kinds.

Books and Pamphlets.

Acknowledgement of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review as dictated by their merits, or in the interest of our readers.

BOOKS.

Progressive Medicine. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart A. Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia, Assisted by Charles Adams Holder, M.D., Assistant Demonstrator of Therapeutics in the Jefferson Medical College. Volume iii. September, 1900. Diseases of the Thorax and Its Viscera, Including the Heart, Lungs and Blood-vessels; Diseases of the Skin; Diseases of the Nervous System; Obstetrics. Cloth. Pp. 408. Price $10.00 per year. Philadelphia and New York: Lea Brothers & Co. 1900.

The Student's Medical Dictionary, Including All the Words and Phrases Generally Used in Medicine,, With Their Proper Pronunciation and Definitions. Based on Recent Medical Literature. By George M. Gould, A.M., M.D., Editor Philadelphia Medical Journal. With Elaborate Tables of the Bacilli, Micrococci, Leucomains, Ptomains, etc.; of the Arteries, Ganglia, Muscles and Nerves; Weights and Measures, Analyses of the Waters of the Mineral Springs of the United States, etc., and a New Table of Eponymic Terms and Tests. Eleventh Edition, Enlarged with many Illustrations. Cloth. Price, $2.50. Philadelphia: P. Blakiston's Son & Co. 1900.

You and Your Doctor. How to Prolong Life. A Practical Book on Health and the Care of It. A Fearless Exposé of All Quacks and Frauds Within and Without the Medical Profession. By William B. Doherty, M.D., Member of the Kentucky State Medical Society. Illustrated. Cloth. Pp. 260. Price, $1.00. Chicago: Laird & Lee.

A Treatise on Mental Diseases. Based upon the Lecture course at the Johns Hopkins University, 1899, and Designed for the Use of Practitioners and Students of Medicine. By Henry J. Berkley, M.D., Clinical Professor of Psychiatry, Johns Hopkins University. With Frontispiece, Lithographic Plates and Illustrations in the Text. Cloth. Pp. 601. Price, $5.00. New York: D. Appleton & Co. 1900.

A Manual of Otology. By Gorham Bacon, A.B., M.D., Professor of Otology in Cornell University Medical College, New York; with an Introductory Chapter by Clarence John Blake, M.D., Professor of Otology in Harvard University. Second Edition, Revised and Enlarged. With 114 Illustrations and 3 Plates. Cloth. Pp. 422. Price, $2.25. New York and Philadelphia: Lea Brothers & Co. 1900.

A Treatise on Diseases of the Nose and Throat. By Ernest L. Shurly, M.D., Vice-President and Professor of Laryngology and Clinical Medicine, Detroit College of Medicine. Illustrated. Cloth. Pp. 744. Price, $5.00. New York: D. Appleton & Co. 1900.

The Physical Signs in Pulmonary Disease. By Graham Steell, M.D., Fellow of the Royal College of Physicians of London. For the Use of Clinical Students. Second Edition. Cloth. Pp. 98. Price, $1.25. Philadelphia: P. Blakiston's Son & Co. 1900.

The Use of the Sphygmograph in Clinical Medicine. By Graham Steell, M.D., F.R.C.P., Physician to the Manchester Royal Infirmary. Cloth. Pp. 57. Price, $1.00. Philadelphia: P. Blakiston's Son & Co. 1900.

Transactions of the American Surgical Association. Volume xviii. Edited by De Forest Willard, M. D., Ph.D., Recorder of the Association. Cloth. Pp. 468. Printed for the Association. For Sale by William J. Dornan, Philadelphia. 1900.

Transactions of the Louisiana State Medical Society, at its Twenty-First Annual Session, held at New Orleans, La., April 19, 20, 21, 1900. Cloth. Pp. 427.

Warner's New Therapeutic Reference Book. By William R. Warner. Cloth. Pp. 225. Price, 0.25. W. R. Warner & Co.

Transactions of the Ohio State Medical Society, at its Fifty-Fifth Annual Meeting, held at Columbus, Ohio, May 9, 10, 11, 1900. Cloth. Pp. 422. Cleveland, Ohio: J. B. Savage.

Transactions of the North Dakota State Medical Society for the year 1899, and List of Members. Paper. Pp. 136. St. Paul, Minn.: Northwestern Lancet. 1899.

Medical Diseases of Infancy and Childhood. By Dawson Williams, M.D., Fellow of the Royal College of Physicians of London. Second Edition Revised with Additions by Frank Spooner Churchill, M.D., Instructor in Diseases of Children, Rush Medical College. Illustrated witht 72 Engravings and 2 Colored Plates. Cloth. Pp. 542. Price, $3.50 net. Philadelphia and New York: Lea Brothers & Co., 1900.

Manual of the Diseases of the Eye. For Students and General Practitioners. With 243 Original Illustrations including 12 Colored Figures. By Charles H. May, M. D., Chief of Clinic and Instructor in Ophthalmology, College of Physicians and Surgeons, New York. Cloth. Pp. 406. Price, $2.00. New York: William Wood & Co. 1900.

Transactions of the Vermont Medical Society. D. C. Hawley, M.D., Secretary. Annual Meeting in 1900, at Rutland, Oct. 11 and 12. Cloth. Pp. 231. Burlington, Vt.: Free Press Association. 1900.

A Child of Light, or Heredity and Prenatal Culture. Considered in the Light of the New Psychology. By Newton N. Riddell. Cloth. Pp. 351. Price, $2.00. Chicago: Child of Light Publishing Co. 1900.

Twenty-sixth Annual Report of the Secretary of the State Board of Health of the State of Michigan for the Fiscal Year Ending June 30, 1898. Cloth. Pp. 395. Lansing, Mich.: Robert Smith Printing Co. 1900.

Transactions of the Medical Society of the State of New York, for the Year 1900. Cloth. Pp. 522. Published by the Society. 1900.

The Book of the Rules of the Medical Association of the State of Alabama. Cloth. Pp. 243. Montgomery, Ala.: Brown Printing Co. 1889.

PAMPHLETS.

A Case of Malta Fever. Amyloid Disease of the Liver with an Abnormally Enlarged Left Lobe. Cancer of the Common Bile-Duct. Indications for the Use of Alcoholic Stimulants in Typhoid Fever. On the Use of Antitoxin in Diphtheria: With Special Reference to Small and Frequently Repeated Doses. By John H. Musser, M.D., Philadelphia. Reprints.

A Crushable Button as an Aid to Suturing in Intestinal Anastomosis. By R. C. Coffey, M.D., Portland, Ore. Reprinted from the Med. Sentinel.

A Study of Diabetes—Its Nature, Cause and Cure. By S. G. Hubbard, M. D., New Haven, Conn. Reprinted from Proceedings of Conn. Med. Society.

Cerebral Localization. Hypnotism in Therapeutics. By Sydney Kuh, M.D., Chicago. Reprints.

Especial Hospitals for Consumption Among the Poor in our Cities. By Edward O. Otis, M.D., Boston, Mass. Reprinted from Phila. Med. Jour.

How Shall Boards of Health Proceed to Prevent the Spread of Communicable Diseases? The Patient's Secret. By Daniel Strock, M.D., Camden, N. J. Reprints.

Observations on the Treatment of Epilepsy. By A. N. Williamson, M.D., New Haven, Conn. Paper. Pp. 15. New Haven, Conn.: E. E. Darrow. 1900.

Presentation of the Code of Ethics. By W. P. Munn, M.D., Denver, Colo. Reprinted from Denver Med. Times.

Some Cases of Dilatation of the Stomach. By John H. Musser, M.D., Philadelphia, and J. Dutton, Steele, M.D., Philadelphia. Reprinted from Am. Jour. of Med. Sciences.

Some Problems Concerning Nervous Disease. By F. W. Langdon, M.D., Cincinnati, Ohio. Reprinted from Brooklyn Med. Jour.

The Diagnosis of Hysteria. Two Cases of General Anesthesia. By Charles W. Burr, M.D., Philadelphia. Reprints.

Total Excision of the Scapula Alone and with the Arm (Interscapulo-Thoracic Amputation); Partial Excision of the Scapula for Tumor. By J. J. Buchanan, M.D., Pittsburg, Pa. Reprinted from Phila. Med. Jour.

Transactions of the Ophthalmologic Division of the Western Ophthalmologic and Oto-laryngologic Association, at its Fifth Annual Session, held in St. Louis, Mo., April 5, 6 and 7, 1900. Paper. Pp. 64. St. Louis, Mo.: American Journal of Ophthalmology.

Abnormal Electrical Storage in the Human System. James Grant, M.D., F.R.C.P., Ottawa. Reprinted frfom Montreal Med. Jour.

Abortion. A. D. Wilkinson, Lincoln, Neb. Reprinted from Western Med. Review.

A Case of Cataracta Nigra, with Specimen, and a Case of Pulsating Exophthalmos, with Patient. Geo. C. Pardee, Ph. B., A.M., M.D., San Francisco, Cal. Reprinted from Transactions of Med. Society of State of California.

A Case of Paralysis Agitans—Cure. Nathan Herman, M.D., Baltimore. Reprinted from Md. Med. Jour.

Chronic Lacunar Tonsilitis. Charles E. Clark, M.D., Kansas City, Mo.

Acute Enlargement of the Thyroid Gland, With Report of Cases. Aortic Regurgitation with Remarks upon Flint's Murmur and Paroxysmal Sweating. The Immediate and Remote Effects of Athletics upon the Heart and Circulation. The Diagnosis of Chlorosis and Chloroanemia. Alfred Stengel, M.D., Philadelphia. Reprints.

An Essay on the Reduction of Obeisity: A Reliable and Harmless Way to Diminish and Cure Over-Fatness. By William T. Cathell, A.M., M.D., Baltimore. Reprinted from Md. Med. Jour.

Annual Report of the Board of Health of the City of Lancaster, Pa., for the Fiscal Year Ending December 31, 1899. Paper. Pp. 149. Lancaster, Pa.: Halbach, Printer.

Charges, Evidence and Arguments on Which Dr. J. F. Baldwin Was Expelled as Chancellor and Professor of Operative Gynecology by the Trustees of the Ohio Medical University. Paper. Pp. 128. Columbus, Ohio: The Landon Printing and Publishing Co. 1899.

Charles Frederick Wiesenthal, Medicinae Practicus, the Father of the Medical Profession of Baltimore. Eugene F. Cordell, M.D., Baltimore. Reprinted from Johns Hopkins Bulletin.

Conservative and Radical Surgery of Empyema. O. Thienhaus, M.D., Milwaukee, Wis. Reprinted from Milwaukee Med. Jour.

Formalin Disinfection of Baggage Without Apparatus. Preliminary Note on the Viabality of the Bacillus Pestis. M. J. Rosenau, Washington, D. C.

Notes on Three Unique Autopsies. Wm. H. Hancker, M.D., Wilmington, Del. Paper. Pp. 18. Wilmington, Del.: Star Print. 1899.

Sixth International Otological Congress, London. Aug 8 to 12, 1899. Transactions Edited under the Direction of the Editorial Committee by E. Cresswell Baber, Hon. Secretary-General. Paper. Pp. 477. London: Southern Publishing Co. 1900.

Some Points in the Management of Obstetric Cases in Private Practice. Joseph Brown Cooke, M.D., New York. Reprinted from Medical News.

The Medical Student of the Last Century. The Voice Crying in the Wilderness. S. D. Tobey, M.D., Oakland, Ia. Reprints.

TRADE PAMPHLETS.

Illustrated Catalogue of Batteries and Electro-Therapeutical Appliances. Paper. Pp. 96. McIntosh Battery and Optical Co., Chicago.

Talks on Rubber. Paper. Pp. 143. Riker's Drug Store, New York.

New Patents.

Patents of Interest to physicians, etc., Sept. 18 to 25:

658,250. Chemical apparatus. Ferdinand R. K. Erfmann, Rotterdam, Netherlands.

658,111. Shoulder-brace. Louise S. Long, San Francisco, Cal.

658,273. Package for medicines, etc. Luther E. Moore, Marietta, Ga.

658,217. Lifting device for hospital beds. Elbert E. Munger, Spencer, Iowa.

658,027. Therapeutic device. Andrew W. Steiger, Boston, Mass.

33,215. Design, water-bag. George S. Van Pelt, New York City.

33,216. Design, fountain syringe-bag. George S. Van Pelt, New York City.

658,481. Massage apparatus. Oscar C. A. Carlsson, Stockholm, Sweden.

658,436. Insufflator. Hans H. Groth, Cincinnati, Ohio.

658,651. Hernial truss. John C. Keil, LaPorte, Ind.

658,669. Speculum. John W. Morrow, Nobility, Texas.

658,467. Device for adjusting truss-pads. Andrew B. C. Sawyer, Albany, N. Y.

658,468. Respiratory mask. Daniel W. Schaeffer, Dayton, Ohio.

658,411. Ionone derivatives and making the same. Johann C. W. F. Tiemann, Berlin, Germany.

658.601. Appliance for imparting heat and electricity to the body. Ignaz Timar, Berlin, Germany.

Change of Address.

Jos. H. And, Cecilian, Ky., to Blackwell, O. T.

H. L. Artz, St. Paul, Minn., to 290 Marshfield Ave., Chicago.

L. D. Alexander, Jr., New Canaan, Conn., to University of Virginia, Charlottesville, Va.

M. P. Bachman, Waterloo, to Muchakinock, Iowa.

P. T. Conlon, Columbus to Platte Center, Neb.

G. F. Chambers, Fort Mitchell, Ala., to Grady Hospital, Atlanta, Ga.

J. C. Dunn, 759 W. 47th St., to 2529 Indiana Ave., Chicago.

H. E. Dearholt, 560 Maryland Ave., to Camp Bldg., Wisconsin and Water Sts., Milwaukee, Wis.

R. C. Fullenwider, Chicago, to Clinton, Ill.

A. M. Fauntleroy, Staunton, to University of Virginia, Charlottesville, Va.

H. D. Gray, Kellogg, to Newton, Iowa.

E. S. Godfrey, Ottawa, O., to 418 S. Broad St., Philadelphia, Pa.

J. H. Holman, Cincinnati, Iowa, to Hartford, Mo.

Geo. L. Hoel, West Liberty, Ill., to Box 823, Ft. Collins, Colo.

E. B. Hults, Gant, to Mexico, Mo.

S. B. Lyon, 8 Mason St., to 330 Eddy St., San Francisco, Cal.

B. F. Long, McCoysville, to Blair's Mills, Pa.

LeRoy Lewis, Chicago, to Bay City, Mich.

J. F. Oechsner, 1229 Elysian Field, to 738 Frenchman [illegible] Orleans, La.

C. H. McElfresh, Dawson, to 1016 W. Monroe St., Sp [illegible]

J. Merenna, 1 Charleston St., New York City, to 1 [illegible] Brooklyn, N. Y.

Susanne Orton, Darlington, Wis., to 298 Maxwell St., care Lying-in Dispensary, Chicago.

I. M. Pfouts, Beach City, to Adams Mills, Ohio.

E. R. Steen, Wheatland, Ind., to 216 Sterling Ave., Joliet, Ill.

H. M. Whiteway, 4336 Sansom St., to 1924 Chestnut St., Philadelphia, Pa.

J. Wehrly, Union Trust, to Chemical Bldg., St. Louis, Mo.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Sept. 27 till Oct. 3, 1900, inclusive:

Cosam J. Bartlett, acting asst.-surgeon, from the Department of California to duty at Port Valdez, Alaska.

Edward C. Carter, major and surgeon, U. S. A., member of a board convened at Washington, D. C., to examine officers of the medical department for promotion.

Edward T. Comegys, major and surgeon, U. S. A., will ship to Manila, P. I., all medical supplies at Taku, China, not required by the troops to remain in China and will report at Manila for duty as medical supply officer at that place.

Joseph J. Curry, acting asst.-surgeon, relieved from duty as a member of the board appointed Jan. 16, 1900, to study tropical diseases in Manila, P. I.

Euclid B. Frick, captain and asst.-surgeon, U. S. A., from Ft. Wadsworth, N. Y., to San Juan, P. R., for duty in the Department of Porto Rica.

Guy C. M. Godfrey, captain and asst.-surgeon, U. S. A., to San Francisco, Cal., to accompany troops to Manila, P. I., and for duty in the Division of the Philippines.

Albert Hartsuff, colonel and assistant surgeon-general, U. S. A., leave of absence granted, with permission to go beyond sea.

John Van R. Hoff, major and surgeon, U. S. A., relieved from further duty with troops in China, to proceed to San Francisco, Cal., and report by telegraph to the surgeon-general at Washington, D. C.

Jefferson R. Kean, major and surgeon, U. S. A., member of a board convened at Columbia Barracks, Quemados, Cuba, to examine officers of the medical department for promotion.

Preston S. Kellogg, acting asst.-surgeon, from Battle Creek, Mich., to Fort Keogh, Mont., for post duty.

Thomas J. Kirkpatrick, lieutenant and asst.-surgeon, U. S. A., to report at Washington, D. C., for examination for promotion.

Muhlenberg K. Knauff, acting asst.-surgeon, from Fort Keogh, Mont., to St. Paul, Minn., for annulment of contract.

Edgar A. Mearns, captain and asst.-surgeon, U. S. A., to report at Washington, D. C., for examination for promotion.

James C. Merrill, major and surgeon, U. S. A., member of a board at Washington, D. C., to examine officers of the medical department for promotion.

Henry Page, lieutenant and asst.-surgeon, U. S. A., leave of absence granted.

Walter Reed, major and surgeon, U. S. A., president of a board convened at Columbia Barracks, Quemados, Cuba, to examine officers of the medical department for promotion.

Alexander N. Stark, captain and asst.-surgeon, U. S. A., leave of absence extended; member of a board at Columbia Barracks, Cuba, to examine officers of the medical department for promotion.

W. J. S. Stewart, acting asst.-surgeon, now on leave of absence, to temporary duty on the transport *Rawlins*.

John H. Stone, lieutenant and asst.-surgeon, U. S. A., to report at Columbia Barracks, Quemados, Cuba, for examination for promotion.

Neil C. Trew, acting asst.-surgeon, from Port Valdez, Alaska, to San Francisco, Cal., for duty in the Department of California.

George M. Wells, captain and asst.-surgeon, U. S. A., from San Juan, Porto Rico, to duty at Fort Wadsworth, N. Y.

Alfred A. Woodhull, lieutenant-colonel, deputy surgeon-general, U. S. A., president of a board convened at Washington, D. C., to examine officers of the medical department for promotion.

Navy Changes.

Changes in the Medical Corps of the U. S. Navy for the week ending Oct. 6, 1900:

Surgeon J. C. Byrnes, detached from the *Massachusetts*, Oct. 1, and ordered to the New York navy yard.

Medical Inspector J. R. Waggener, detached from duty at naval hospital, Yokohama, Japan, and ordered to duty in charge of the naval hospital, Cavite, P. I.

Asst.-Surgeon B. L. Wright, detached from the *Isla de Luzon* and ordered to the naval hospital, Cavite, P. I.

P. A. Surgeon L. L. Von Wedekind, detached from the *Richmond* and ordered to the Puget Sound naval station.

P. A. Surgeon R. S. Blakemen, detached from the naval training station, Newport, R. I., [illegible] ordered to temporary dury on the *Pen* [illegible] *ola.*

Surgeon [illegible] o the nav [illegible] wport, [illegible] uty.

[illegible] geon [illegible] om [illegible] ng [illegible] ica [illegible] e [illegible] t

Station and ordered to proceed home and to be ready for orders to sea duty.

P. A. Surgeon W. F. Arnold, ordered to the naval recruiting rendezvous, Chicago, Ill., Oct. 8.

Surgeon S. H. Dickson, detached from the Washington navy yard and ordered to duty at the headquarters of the Marine Corps, Washington, D. C.

Surgeon C. G. Herndon, detached from the naval museum of hygiene, Washington, D. C., October 8, and ordered to duty at the Washington navy yard.

Surgeon E. H. Green, detached from duty at the headquarters of the Marine Corps, Washington, D. C., and ordered to wait orders.

Surgeon E. H. Green, ordered to the *Alabama*, Oct. 16.

Asst.-Surgeon T. M. Lippitt, detached from the *Monocacy* and ordered to the naval hospital, Yokohama, Japan, for treatment.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ending Sept. 27, 1900:

Surgeon F. W. Mead, granted leave of absence for one day.

Surgeon D. A. Carmichael, granted leave of absence for thirty days from Oct. 15.

P. A. Surgeon C. P. Wertenbaker, granted leave of absence for three days.

Asst.-Surgeon M. H. Foster, to proceed to Port Angeles, Washington, for special temporary duty.

Asst.-Surgeon Dunlop Moore, relieved from duty at Dutch Harbor, Alaska, and directed to proceed to San Francisco, Cal., or Seattle, Wash., and await orders.

Asst.-Surgeon Carroll Fox, relieved from duty at Dutch Harbor, Alaska, and directed to proceed to San Francisco, Cal., or Seattle, Wash., and await orders.

A. A. Surgeon R. S. Primrose, granted leave of absence for seven days from Sept. 24.

A. A. Surgeon W. S. Walkley, granted leave of absence for eleven days from Sept. 24.

A. A. Surgeon W. O. Wetmore, relieved from duty at Cape Charles quarantine, and directed to proceed to Buffalo, N. Y., and report to medical officer in command for duty.

Hospital Steward G. C. Allen, granted leave of absence for five days under paragraph 181, Regulations, M.-H. S.

Hospital Steward Myron R. Mason, relieved from duty at Dutch Harbor, Alaska, and directed to proceed to San Francisco, Cal., or Seattle, Wash., and await orders.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Oct. 6, 1900:

SMALLPOX—UNITED STATES.

Colorado: Sept. 18-24—Garfield County, 1 case; Larimer County, reported; Las Animas County, 2 cases; Pueblo County, 11 cases; total, 14 cases, 1 death.
Kansas: Wichita, Sept. 22-29, 1 case.
Louisiana: New Orleans, Sept. 22-29, 1 case, 1 death.
Ohio: Cleveland, Sept. 22-29, 6 cases.
Oregon: Portland, Sept. 5, 3 cases.
Utah: Salt Lake City, Sept. 22-29, 3 cases.
Washington: Tamcoa, Sept. 22-29, 1 case.

SMALLPOX—FOREIGN AND INSULAR.

Belgium: Ghent, Sept. 1-15, 2 deaths.
Egypt: Cairo, Aug. 26-Sept. 2, 2 deaths.
England: Liverpool, Sept. 8-15, 1 case, 1 death; London, Sept. 1-15, 6 cases.
France: Paris, Sept. 8-15, 12 deaths.
India: Calcutta, Aug. 25-Sept. 1, 5 deaths; Karachi, Aug. 26-Sept. 2, 2 cases, 1 death; Madras, Aug. 20-31, 3 deaths.
Japan: Formosa, July 1-31, 3 cases.
Mexico: City of Mexico, Sept. 2-16, 13 cases, 7 deaths.
Philippines: Guimeras, Aug. 20, 20 cases.
Russia: Moscow, Sept. 2-9, 2 cases; Odessa, Sept. 8-15, 6 cases, 3 deaths; St. Petersburg, Sept. 1-8, 22 cases, 12 deaths; Vladivostock, May 1-July 31, 3 cases; Warsaw, Sept. 1-8, 9 deaths.
Scotland: Glasgow, Sept. 8-22, 26 cases, 1 death.

YELLOW FEVER.

Colombia: Barranquilla, Sept. 8-16, 1 death; Cartagena, Aug. 31-Sept. 14, 3 cases, 3 deaths.
Cuba: Havana, Sept. 15-22, 9 deaths.

CHOLERA.

India: Bombay, Aug. 28-Sept. 4, 177 deaths; Calcutta, Aug. 25-Sept. 1, 4 deaths; Karachi, Aug. 26-Sept. 2, 11 cases, 10 deaths; Madras, Aug. 25-31, 44 deaths.
Japan: Fukuoka Ken, Aug. 28, 4 cases; Osaka and Hiogo, Aug. 18-25, 1 case.
Straits Settlements: Singapore, July 28-Aug. 4, 1 death.

PLAGUE—FOREIGN AND INSULAR.

Brazil: Rio de Janeiro, Aug. 1-31, 90 cases, 46 deaths.
Egypt: Alexandria, Aug. 20-27, 2 cases, 2 deaths.
India: Bombay, Aug. 28-Sept. 4, 57 deaths; Calcutta, Aug. 25-Sept. 1, 56 deaths.
Japan: Formosa, Taihoku Ken, July 31-Aug. 7, 3 cases, 4 deaths.
Philippines: Cebu, July 25, 1 American boy; Manila, July 28-Aug. 18, 10 cases, 5 deaths.
Scotland: Glasgow, Sept. 18, 7 cases, 1 death.

THE JOURNAL OF THE
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The Journal of the American Medical Association

VOL. XXXV. CHICAGO, ILLINOIS, OCTOBER 27, 1900. No. 17.

Original Articles.

LARNYGEAL STENOSIS DUE TO COMPLICATION OF THE THYROID CARTILAGES.*

EMIL MAYER, M.D.

Surgeon to the New York Eye and Ear Infirmary (Throat Dept.);
Fellow of the American Laryngological Assn., etc.

NEW YORK.

In November, 1898, Private Jacob H. M., Fourth U. S. Infantry, came under my observation. He was entirely aphonic and breathed through a tracheotomy tube. With pencil and paper all queries were intelligently answered and the following history was elicited:

He was in the second year of a second enlistment. While lying down on the fighting line at the battle of El Caney, July 2, 1898, he received a wound over the right frontal bone, from a Mauser bullet. His sensations at that time were such as follow a stunning blow, though there was no loss of consciousness, for he remembered everything that occurred. There was some slight bleeding from the bullet's point of impaction and very profuse bleeding from the mouth and nose. There was a sensation of rasping as though a saw was passing up and down through his head on the right side, and he had difficulty in getting air enough, for it seemed to escape somewhere before it got into his lungs. With it all he had a severe chill.

In about three hours litter-bearers arrived and carried him to a field-hospital, where his wound was dressed. Some water given him produced strangling and he found that he could not swallow; his thirst was assuaged by moistening a piece of gauze and placing it between his teeth, the jaws were quite firmly wedged together by this time. The jaws slowly relaxed and six days later, July 8, he was able to swallow a little at a time. A long string of tissue hung from his mouth; this he pulled away with his fingers. He had been transferred first to the division hospital and then to the ship *Relief*. On board the ship he began to eat, but not without strangling. He was then placed aboard the transport ship *Seneca* for return to this country. There the fare consisted of hardtack and coffee, and after three days bacon was added; some of this he swallowed. During all this time he had not slept six hours because of constant noises in his head. On July 26, 1898, he landed, and was sent with other wounded soldiers to a general hospital in New York City. He described a terrible choking sensation occurring soon after his admission to the hospital, following an attempt to swallow whisky and oil. His breathing was always difficult at that time; a walk of ten paces exhausted him. His breathing became more difficult each day, and on August 3 tracheotomy was performed, followed by complete relief. His dysphagia was much better, and he partook of solid food. One night while at stool, after much straining, a metallic substance passed from his rectum; no attempt was made to recover it. His history obtained from this hospital is as follows:

Soldier U. S. A., age 25, admitted July 26, 1898. Father living, good health. Mother died at 57 of typhoid fever, three brothers living aged 34, 30, 19, in good health. Two sisters, 28, 20, good health.

Personal history:—He had typhoid fever in 1894; general health good; on July 1 at El Caney was shot with Mauser bullet above right eye, *glancing wound;* dressed at division hospital and recovered rapidly; was exposed to rain-storm shortly after, and from that time has been very hoarse, expectorated considerably, voice husky; on admission was hoarse and later on inspiration there was a retraction of the supra- and infraclavicular spaces, with considerable difficulty in breathing. Dyspnea increased and on August 3 tracheotomy was performed under cocain, followed by relief to dyspnea. Diagnosis: "Stricture larynx."

December 5 he was transferred to New York Eye and Ear Infirmary.

Examination:—Over the frontal bone on the right (Fig. 1) there is a scar 20 mm. in length and 5 mm. in breadth. The lowest point is 3.5 mm. from the external canthus and curves to a point about 4 mm. from the center of the supraorbital notch. In the pharynx there is a notable absence of the greater portion of the posterior fold of the soft palate on the patient's right, some of it near the uvula and again near the tonsil being present. It presents the appearance of being gouged out. Alongside the tonsil is a line of reddened tissue which looks as though this fold had descended and become adherent. The left side is entirely normal.

Laryngoscopic examination:—A mass of mucus lies within the larynx, which is very tenacious and difficult of removal. An infundibulum is seen closed tightly and not even admitting a small probe. No air passes through. The inner wall of the larynx bulged at the center and the lowest portion [illegible] a line with the site of the false vocal cords. There [illegible] voice sounds whatever.

The clean-cut hole in his soft palate [illegible] minuted appearance of his larynx, [illegible] history, led to the diagnosis of a [illegible] shot wound, the bullet taking a [illegible] course.

Instead of his having had a [illegible] surgeons heretofore had believ[illegible] rectly alongside and over the [illegible] the superior maxilla [illegible] through the posterior [illegible] entered the neck. He[illegible] the hyoid bone, and [illegible] oughly comminut[illegible] where, being [illegible] probably pass[illegible] gust, while [illegible] inations an[illegible] the pres[illegible]

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*Presented to the Section on Laryngology and Otology at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

admitted to the service of Dr. Morris J. Asch, who agreed with my diagnosis and kindly placed him in my charge. Under cocain anesthesia attempts were made to pass the hard-rubber fenestrated Schrötter tube of small caliber. These were persistently used, and on January 10 dilatation was followed by an attack of coughing and a mass of lymph was coughed up. A large chink resulted, and some air could be inspired and he was able to speak in a hoarse but strong voice. During February various larger sized Schrötter tubes were introduced, the patient breathing through the fenestration at the lower end of the tube.

On March 7 a large sized O'Dwyer tube was inserted and after a few hours was coughed up.

March 20 he was again intubated under cocain, after many attempts; the tracheotomy opening was packed with gauze. He was unable to swallow with the intubation tube and he was fed by means of the stomach tube.

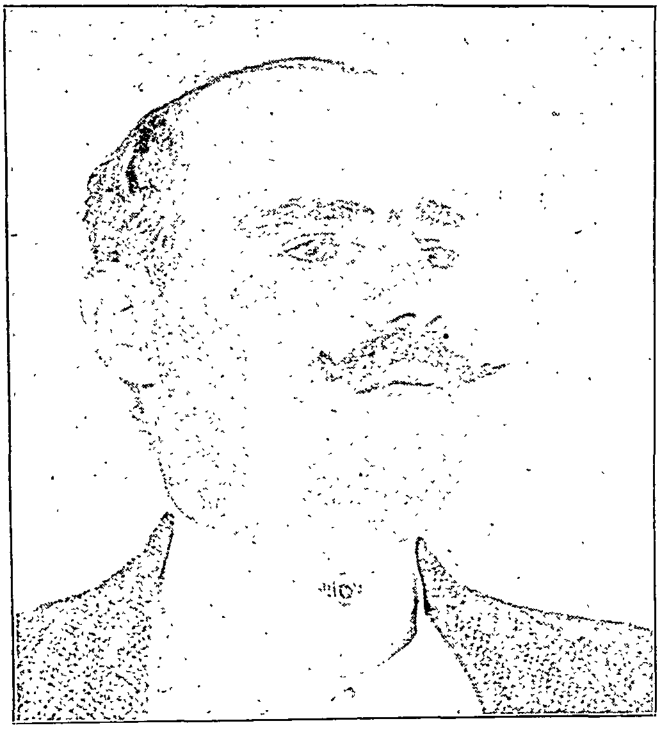

Fig. 1.—Cicatrix shows entrance of bullet.

March 24, in a severe coughing spell the tube was coughed up, after four days of intubation and the tracheotomy tube reinserted. The next day he was readily intubated, the tube remaining but one day *in situ,* the tracheal tube being again inserted. The Schrötter tubes readily enter.

April 17, an intubation tube was inserted, having a small rectangular piece screwed through the tracheotomy wound, into a hole previously made in the intubation tube. The screw of this was too short and the tube was coughed out four days later.

April 24, an adult intubation tube had been introduced and a heated iron passed through the tracheal wound to the tube thus marked the point opposite the opening. Following the suggestion of Dr. John Rogers, Jr., of this city, a large threaded opening was made in the intubation tube opposite the tracheal opening and the solid tube was made to screw in—a small plug being inserted to prevent its unscrewing when *in situ.* The final appearance is similar to the arrangement in glass described by Werner Kummel[1] of Breslau. This tube remained *in situ* for six weeks, the patient being fed every three hours by means of the esophageal tube inserted through the nose. During all this time he was unable to swallow. He breathes well, goes about, and enunciates clearly. A small piece of tissue flaps to and fro low down; some narrowing of the lumen of the larynx still exists. A new O'Dwyer tube with the Roger attachment was readily introduced. He left hospital on June 29, wearing this tube; he had meanwhile learned to feed himself by means of the esophageal tube. He was readmitted July 20, 1899.

The tube was removed and a large space was visible in his larynx. His voice was clear, his respirations free and the tube was not reinserted. The external opening was closed and daily applications were made to the thickened tissue in the larynx. His comfort was extreme, his voice clear and distinct; except for some loose flaps quite low down there was no visible abnormality. This comfort lasted for ten days, when the patient complained of some dyspnea and following an application to his larynx the dyspnea became extreme. This attack of dyspnea became so intense that I hastily operated in my office and introduced a tracheotomy tube.

August 1 he was reintubated, followed by a septic condition, and on August 5 tube was removed. From now on Schrötter tubes of increasing caliber were introduced daily until March 1, 1900, in the following manner. A 4 per cent. solution of cocain was sprayed into the larynx, the tracheotomy tube withdrawn, a Schrötter tube of very large caliber was introduced beyond the tracheal orifice, and the patient breathed through the tube, keeping it in position for twenty minutes. The tracheotomy tube was reinserted on the withdrawal of the Schrötter tube, the opening was corked up and patient breathed easily for fully two hours. The problem here was to find an intubation tube that would not be coughed up, would permit of deglutition when *in situ* and could be introduced with the least discomfort to the patient. It was noticed with regard to the latter point that Schrötter's tubes, being hollow all the way through, were readily introduced and were not at all annoying, while on the other hand the usual intubation tube with its introducer cut off the air to a most disagreeable extent and was difficult to insert. I therefore had made for me a tube whose head was as low as possible, with no retaining swell, and with a threaded opening for a screw piece, and finally a hollow introducer, which I here exhibit (Fig. 3). Intubation was as sim-

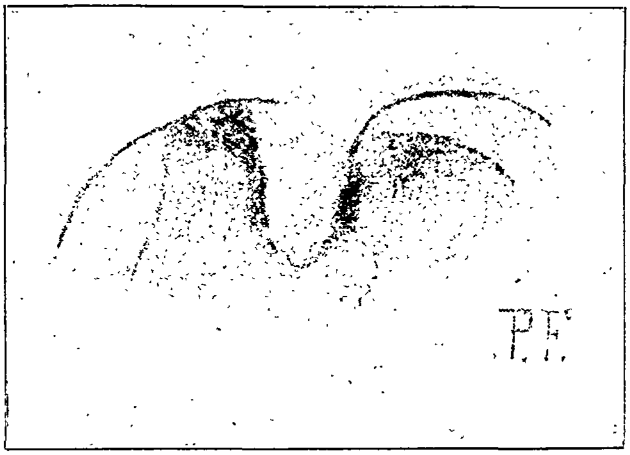

Fig. 2.— Showing hole made by bullet.

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[1] Archiv f. Laryngologie, 1896, Vol. iv, p. 72.

ple and easy a problem as one could wish. The new tube was introduced and left *in situ.* In the meantime his general condition was so poor that he began to show some signs of sepsis and the tube was removed. He had been in the hospital, except one month, for a year and a half, and it was deemed advisable to send him to some army hospital where the change of air, combined with a rest from treatment to his larynx, would give him the opportunity to recuperate and enable us to conclude our methods at dilatation eventually. Accordingly he was transferred to Governor's Island in New York Harbor and within a month increased 20 pounds in weight. An examination of his larynx, June 1, shows some diminution of the space about the center of the thyroid cartilages, which appear as if bent in. The vocal cords are plainly visible and perform their function. Some narrowing of the space on a line with the cricoid still exists. His condition is materially improved and I see no reason why, with an intubation tube that permits deglutition, we may not eventually anticipate a perfect cure.

The points of interest in the case are the acceptance of a glancing wound of the frontal bone as a correct diagnosis by all surgeons until I saw him, the remarkable course of the bullet, which failed to injure his eye, important nerves or blood-vessels, the early restoration of his voice and the tolerance of his larynx to dilatation, and finally to the use of an entirely new method of intubation, which the writer hopes will render subsequent attempts at intubation, in chronic stenoses at any rate, much more agreeable to both the patient and to the physician.

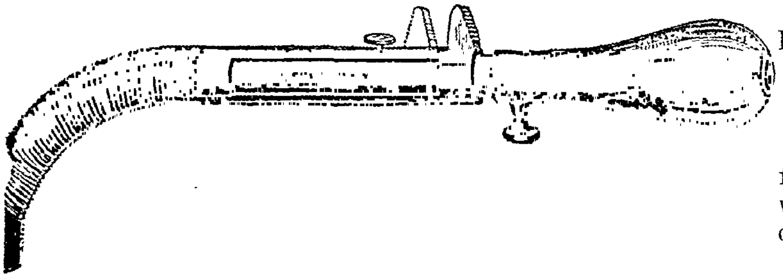

Figure 3.

DISCUSSION.

Dr. W. H. Daly, Pittsburg—These cases are very rare. Several years ago, I do not know how many, but some of the old members of the American Laryngological Association may remember, I collated all the cases I could find of gunshot wounds of the larynx, and they were very few in number. I made a very careful search in the Army Medical Museum and other places and could find only very few cases.

Dr. Cohen saw a case with me which was very interesting. A ball, I think a 22 caliber, had pierced the thyroid bone and had severed both true vocal cords. I saw the case about two weeks after the wound was sustained. At that time the young man was lying in a very critical condition. The ball had not been discovered, and with the attending surgeon we made a very careful search for the bullet. The ball had entered somewhere near the angle of the jaw in a downward direction. The boy was not able to speak. After a careful search we found a spot behind the collar bone of the opposite side, over which there was great tenderness. I suggested that we cut down on the parts, making a careful dissection, and while there was some objection, we finally prevailed, and we found the ball resting on the subclavian artery. Part of the coats of the artery was absorbed by the pressure. Certainly, in a very short time, the bullet would have caused ulcerative absorption and hemorrhage. Afterward I asked our eminent colleague, Dr. Cohen, to examine the patient. With the use of the laryngoscope he made a very careful examination, and I think we agreed that the boy would never have an audible voice. We did not see how it was possible with the amount of ulceration and traumatic damage done to the larynx. However, I brought the patient to Pittsburg, and after prolonged care he recovered, without much traumatic stricture of the larynx, and in about a year or a year and a half, he had an audible voice and afterward he became able to shout. He entered on the study of medicine, and is now a graduate, and can use his voice very well. The case shows the tremendous amount of damage that may be done to the larynx and pretty good results follow.

Dr. J. Holinger, Chicago—About five years ago a new tracheotomy tube was devised by Dr. Thilo, of Chicago. The instrument consists of two pieces on the principle of a duck bill. It would fully comply with all the requirements necessary for an intubation tube in this case. The instrument is very easy to be inserted, and deglutition is possible with the tube in situ. It is self-retaining. So far, this instrument has been buried in the reports of the Chicago Medical Society, and no instrument-maker is willing to take it up because there are so many varieties of the O'Dwyer tubes. But I know it is a good thing.

Dr. Emil Mayer, closing the discussion—I am desirous of knowing something about that tube, as it would be of advantage to procure one that will remain in the larynx.

PAPILLOMATA OF LARYNX IN CHILDREN.*

EDWARD T. DICKERMAN, M.D.
CHICAGO.

Papillomata of the larynx is undoubtedly the most frequent neoplasm found in the larynx of children, where fortunately pathologic growths are not of frequent occurrence.

In an article by Rosenberg,[1] of Berlin, he states that out of 5808 children under 13 years of age, 16 cases of papillomata were found, that is, 1 in 363 cases examined.

Schrötter found the ratio about 1 in 700, Baumgarten states the condition was rare in his clinic.

In my own clinic I find the disease occurring once in about every 1200 cases. It has been my fortune to see 5 of these cases, 3 in private and 2 in clinical practice, the histories of which I shall briefly relate:

Case 1.—In March, 1896, a little girl, aged 6 years, was brought from Montana to consult Dr. M. R. Brown, of this city. At the time, Dr. Brown was unable to take care of the child and he referred her to me. She gave the history of diphtheria two years before, since which time she has been gradually growing hoarse, and during the last six months breathing has become difficult. The general condition of the child was below par and it was with the greatest difficulty that a glimpse of the larynx was obtained, revealing nearly the entire cavity filled with a cauliflower growth of a pale greyish-white color. After consulting with Dr. Brown, I decided to first do a tracheotomy for the relief of the dyspnea. Five days later thyrotomy was done and the growth was found attached to the false and true cords and extending up on the inner side of the aryepiglottic fold. It was removed with scissors and curette; the base was cauterized with chromic acid. At the end of four weeks the mother insisted on taking the child home, and as no recurrence had taken place the tube was removed. The growth recurred five months later and tracheotomy was again done by the local physician.

Case 2.—In January, 1897, a boy, 9 years old, was sent to me from an interior town, with the following history: One year before, the boy had a sore throat and as hoarse. He belonged to a church choir and during his time had tried to sing, but his voice failed him. Since then he has been gradually growing worse. On xamination a lobulated growth was found springing rom the under side and free edge of the left cords nd at the angle extending across to the right cord. The oy had a good control of his larynx and by means of snare the growth was removed, only to recur. During even months, I operated five times, and then followed up my last operation with a 5 per cent. solution of alicylic acid in alcohol, to which was added 3 per cent. of resorcin applied daily. For two years the larynx has been free and the voice good.

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*Presented to the Section on Laryngology and Otology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

[1] Archiv f. Laryngologie.

Case 3.—A girl, 5 years old, was brought to my clinic t the Chicago Policlinic, in June, 1898, with the history of scarlet fever eighteen months before, since that ime cough, hoarse crying, and later dyspnea. With great difficulty a glance into the larynx was obtained, revealing a warty growth filling in the anterior two-thirds of the glottis. Tracheotomy was done at once on account of the dyspnea. At repeated sittings, by means of a snare and sponge as devised by Voltilini, pieces of the growth were removed. I lost track of the child for six months and when she returned I found much to my surprise that the growth had disappeared. She wore the tube for six months and at the end of that time, no recurrence taking place, it was removed. I saw the little patient the other day. The larynx is free and the voice normal.

Case 4.—A boy, 2 years of age, was brought to my clinic last December with history of cough, laryngeal spasm, rough hoarse cry and for two weeks dyspnea. Only by means of the autoscope was I able to see the posterior part of the larynx, the surface of which was covered with a papillomatous growth. Tracheotomy was done at once, and from my last examination, made two weeks ago, I think the growth is growing smaller. No endolaryngeal treatment was employed.

Case 5.—A girl, 4 years old, was brought to my office last March with history of hoarseness, cough, choking at night, and increasing dyspnea. The examination was difficult, but I succeeded in seeing the larynx apparently filled with a cauliflower-like growth. I sent her to the hospital, expecting to do tracheotomy at once. On arriving at the hospital the child began to cry, became cyanotic, stopped breathing, and before the tracheotomy, done by an interne, was completed the child was dead. [The larynx removed from the tracheal wound was passed around.] The growth springs from the true and false cords, and nearly fills the glottis opening. A deep inspiratory effort wedged the growth in the chink of the glottis, asphyxiating the child.

In 1897, Rosenberg collected and published 231 cases. Since that time I have been able to collect 16 cases, thus with my own making a total of 252. Of these, 114 were boys, 100 girls, and in 38 the sex is not mentioned. Fourteen of the cases were under two years of age; 57 between two and four years; 38 between four and six; 19 between six and eight; 39 between eight and thirteen. In 15 cases the age was not stated.

Papilloma of the larynx may be congenital, although I consider this a rare form. It may develop early in life, following an attack of one of the acute exanthemata. In one of my cases it appears to have been caused by an acute laryngitis. Lennox Browne thinks that adenoids and enlarged tonsils may act as etiologic factors, although in none of my cases were they present.

When occurring in the first few years of child life, the growth is generally multiple, pale grey-white in appearance, and springs especially from the true and false cords, although the whole laryngeal surface may be involved. Later, it may be single or lobulated, and generally makes its appearance in the anterior half of the larynx, developing on the true cords.

The clinical picture in a well-developed case is characteristic: a rough hoarse voice, or loss of voice, cough harsh and annoying, a distressing inspiratory dyspnea with retracted chest walls and shallow breathing. Laryngeal spasm is not an infrequent symptom, and a rather free mucous expectoration is generally present. The diagnosis can be made almost from the clinical history and the general appearance of the child; a positive diagnosis by means of the laryngeal mirror will often try the patience of the most expert laryngologist.

Autoscopy I found of great value in one of my cases. Frequent examination of the sputa will disclose particles of the growth which have become detached and are expectorated.

Treatment of this class of cases may be divided into two forms: 1. Where the dyspnea is not marked, rest in bed, absolute rest of the larynx and a general tonic may be tried. Various local applications may be used. In my hands a 5 per cent. solution of salicylic acid in alcohol, with the addition of 3 per cent. of resorcin, has proved of benefit. 2. Operative treatment may be of three kinds: laryngotomy, tracheotomy with or without intralaryngeal procedures, and intralaryngeal operations.

In order to compare the value of these various methods I have, as Rosenberg did in his article on this subject, divided the operative cases in three groups according as they were treated by laryngotomy, tracheotomy or intralaryngeal means. Some of the cases are difficult to classify, as two or more of the above methods were tried. Rosenberg reports 88 cases treated by laryngotomy with the following results: 17 cases died from various causes; diphtheria, bronchitis, pneumonia, or suffocation from recurrence; in 5 cases the result is not reported; 34 cases recurred, in 6 with voice affected, in 1 with breathing disturbed, 1 with necrosis of the thyroid cartilage, 2 with fistula, and in 3 the cure was only temporary.

Bruns, in a paper published in 1878, comes to about the same conclusion. In 21 cases collected by me since Rosenberg's paper was published, 5 were treated by laryngotomy, 1 died, 2 cases were cured, 1 recurred, and 1 is in doubt. Roughly speaking, of all these cases 40 per cent. were cured, 20 per cent. died, and recurrence occurred in about 40 per cent. Of the total 252 cases collected, 43 cases were treated by tracheotomy with the following results: 21 cases, or 49 per cent., were cured, 3 cases, or 7 per cent., recurred, 12 cases, or 28 per cent., died, and 6 cases, or 14 per cent., were in doubt.

In the third class I have placed only those cases actually treated by intralaryngeal methods. Of the 21 cases collected by me, 6 cases were handled by this method, 4 were cured, 1 recurred, and 1 case is doubtful. Rosenberg's table shows the following results: Out of 48 cases, 3 died; in 7 the result was doubtful, 6 improved, in 4 temporary cure and in 27 cure absolute.

Of the methods employed in the removal of these growths, I shall have little to say. Personally I used Krouse's small pincet-forceps and the snare, and I think I have had good results from following up the intralaryngeal operations with the daily application of a 5 per cent. solution of salicylic acid in alcohol. I should like to offer the following deductions:

1. That papilloma of the larynx is, especially in this country, a rare disease.
2. In a number of cases they undergo spontaneous cure.
3. Intralaryngeal methods should always be tried first, unless dyspnea is pronounced, when tracheotomy should be done at once.
4. After tracheotomy, intralaryngeal methods should be tried.
5. Patient should wear a tube for six months after the growth has disappeared.
6. Thyrotomy should be considered only as a last resort.

103 State Street.

UNUSUAL PAPILLOMATOUS GROWTH IN THE LARYNX.*

JOSEPH S. GIBB, M.D.
Professor of Diseases of the Throat and Nose, Philadelphia Policlinic, etc.
PHILADELPHIA.

The case which it is my privilege to present to the Section at this meeting was one of such unusual character as, in my judgment, to merit publication. While many of the features of the case are common to laryngeal growths, there is one characteristic, viz., its color, which makes it almost unique.

The opportunity afforded to study this case from an early period of its existence to the close was most fortunate, and I trust not unproductive of results, if not of immediate value to the patient, at least an addition to our store of knowledge in the field of laryngeal growths. The history as taken from the records is as follows:

John D., aged 52 years, a laboring man, always enjoyed good health until present illness; family history is good. No tuberculosis or cancer existed in family so far as he knows. He had a chancre when a young man, but has no recollection of secondary manifestations.

The first symptoms of the present illness began in the winter of 1896, and consisted of a slight hoarseness and tire after talking. Soon a slight cough appeared and he began to experience some impediment to free respiration, at first only manifest on exertion, e.g., ascending a flight of stairs. These were the symptoms of which he complained when he first presented himself. Examination revealed the following conditions: Pharynx injected and exceedingly sensitive, requiring the use of a local anesthetic to tolerate the presence of a mirror. The mucous membrane of the larynx is red and the cords injected; approximation of the cords perfect. A pearly-white deposit extends from the base of the left arytenoid body on the lateral wall of the larynx down to, but not involving, the true cord of this side. This whitish deposit seemed to consist of an innumerable number of fine filaments closely packed together, in mass presenting an appearance not unlike that of mycosis in the pharynx. During the examination a peculiarly unpleasant odor is noticed. This deposit or exudate is firmly fixed to the membrane from which it springs, and resists all attempts to brush it away. There is a slight edema of the tissues immediately surrounding the deposit, but there is very little encroachment upon the lumen of the laryngeal cavity.

Acting on the suspicion that the peculiar condition was syphilitic in its nature, increasing doses of a sat. sol. of iodid of potash were given until gtt. xl. t.i.d. were tolerated, and this was continued for a month or more. The only effect of this treatment was to improve both the quality of the voice and the dyspneic symptoms. The only change noticeable in the larynx was a diminution in the edema. So far as the exudate was concerned, three months from the time the iodids were commenced, in which time they had been taken almost continuously, there was absolutely no change, either in character or extent.

During the summer of 1897 I saw very little of the patient, and at these occasional visits no change could be detected in the laryngologic appearance. Early in the fall of this year the iodids were discontinued and simple tonics were prescribed. During the winter of 1897 and 1898 the patient was seen regularly, at least once, and sometimes twice, weekly. Very slight changes were noticeable in the larynx and the general symptoms varied. At times he seemed weak and nervous; at others he would grow stronger, even taking up work at the navy yard during the recent war with Spain. The only symptom of note to record during the period from October till May was a slowly increasing dyspnea, especially manifest on exertion or after an examination by the laryngeal mirror, a slight cough, very harsh and smothering in character and increasing hoarseness.

During the summer, from June till September, I saw very little of the patient. The early part of this period he was, as above stated, engaged at the navy yard and had no time for treatment; the latter portion I was out of the city. I again saw him the early part of September, 1898, and noted a very marked change in him, both as to his general condition and the appearances of his larynx. The breathing had become noticeably oppressed and noisy; there were frequent, short, sharp, smothered coughs and he seemed much distressed. He stated that he had not been able to sleep for weeks, because of the great difficulty in breathing; appetite had failed and he had become somewhat emaciated. In the larynx it was seen the growth had increased, both in extent and bulk; the entire left side of the larynx was covered and a portion of the right. The lumen of the larynx was encroached upon to such an extent that only a very small section of the anterior edge of the right cord could be seen. The general appearance of the deposit remained the same, viz., the glistening, pearly-white color; the odor had increased and was distinctly fetid. His condition at this time was so serious he was urged upon to come into the hospital so that he might be watched and prompt relief given. However, he remained away for three weeks, and when he again presented himself his symptoms were so urgent as to require no persuasion to obtain his consent to enter the hospital. Indeed, so eager was he to obtain relief from his great distress that he was perfectly willing to submit to anything.

He was admitted to the Episcopal Hospital the evening of October 7. So alarming were his symptoms that I felt at first his trachea should be opened at once; but, recognizing the disadvantage of doing the low operation by artificial light and also during the distressing paroxysms of dyspnea, I decided to wait a short time. The urgency of the symptoms passed over in a little while and the operation was fixed for the next afternoon.

The low tracheotomy was done the afternoon of October 8. No general anesthetics were permissible, hence a 4 per cent. solution of eucain was injected into the skin along the line of the proposed incision; this controlled the pain perfectly. The trachea was unusually short and deeply situated, so that some little time was consumed in reaching it. In cleansing the trachea of loose connective tissue previous to incising, some of the deep veins were torn and considerable bleeding resulted. Unfortunately, at this time the patient was seized with an unusually severe paroxysm of dyspnea, and for a few moments it looked rather hopeless. Happily, time was allowed to catch up and tie the bleeding vessels and rapidly open the trachea. This at once relieved all the urgency of the symptoms.

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*Presented to the Section on Laryngology and Otology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

The ordinary tracheal tubes were all too long in the curved portion, so that great difficulty was experienced in having them retained. After using two, a third was found which seemed to hold in position. In consequence of the difficulty with the tubes, it was deemed expedient to take a stitch on either side of the incision in the trachea with a short silk ligature, so that the trachea could be separated and breathing sustained in the event of the tube slipping out. The following afternoon, on my visit to the hospital, the tube was in the wound and the patient was breathing through the slit in the trachea. After some difficulty the tube was replaced and gave no further trouble. On the third day the patient developed a purulent discharge from tube, with high temperature, and died suddenly at noon on the fourth day.

Post-mortem.—The tongue, larynx and trachea down to the bifurcation with adjacent tissues were removed for examination. The length of the larynx and trachea from the top of the thyroid cartilage to the bifurcations is a trifle over 5 inches. From the top of the thyroid to the tracheal wound is 3 inches. At the position of the incision in the trachea, which when the parts were *in situ* was a little above the suprasternal notch, the trachea bends to a right-angle; this angular portion is about 1½ inches in length before its ultimate division. The wound in the trachea is ragged and irregular.

The larynx and trachea were split open in the median line, commencing above the suprathyroid notch and extending downward to and joining the incision in the trachea. The cartilages were completely ossified, requiring the use of the saw for their division.

Looking into the larynx from above, both arytenoid cartilages are thickened and indurated, the right to a greater degree than the left. The new growth almost entirely covers and extends above the left arytenoid; on the right the growth extends to nearly the top of the arytenoid, leaving about ¼ inch of the cartilage free though much indurated. The lumen of the larynx is encroached upon to such an extent as to barely admit of a crow's quill. The epiglottis and all the extralaryngeal tissues are entirely free from the new growth. After separating the divided thyroid cartilages and trachea, the entire larynx seems to be filled with the new growth, which almost entirely obliterates all landmarks. It extends from the apex of the arytenoid cartilage above and down to the lower border of the cricoid cartilage below. It is much more extensive on the left side and posterior wall of the larynx, absolutely obliterating all the normal tissues of the larynx. The right side is greatly infiltrated, the only recognizable tissues being the anterior third of the true and false cords and the lateral wall of the larynx lying between them. The growth is whitish in color, exceedingly soft and friable, breaking down upon the slightest touch of the probe. The trachea below the cricoid seems normal in appearance and presents nothing of interest.

The notes of the autopsy as to the other organs have been omitted, because they threw no light on the cause of death and were in most respects normal. In the light of a subsequent experience and from the symptoms presented just prior to death, I believe that cultures taken from the blood and internal organs would have shown the presence of streptococci in pure culture, and that the case was another instance of sepsis following operation in which intralaryngeal surgical work had been previously done. I am indebted to Dr. H. L. Williams for the following careful report of the microscopic appearance of the growth:

> A small piece of tissue about the size of a pea has been removed from a typical part of the surface of the growth, hardened in formalin, mounted and cut in celloidin and stained with hematoxylin eosin. On microscopic examination we note that the surface is exceedingly irregular and can be followed with difficulty, on account of the foldings and reduplications. Superficially we note a granular débris of necrotic tissue, mostly amorphous, with occasional leucocytes, small round cells and a few squamous epithelial cells caught in various portions. Beneath this we find an irregular horny zone of variable width, taking the diffuse eosin stain faintly, containing no nuclei and showing slight striation in lines parallel with the surface. As we pass beyond the horny zone the striations become more marked; flattened and spindle nuclei begin to appear between the striæ, and the outline of cells that have been flattened by pressure can be discerned. Proceeding still a little more deeply we come upon large, well-developed, typical stratified squamous epithelium with round, or oval, slightly granular nuclei, which take the hematoxylin stain very deeply. The cells at the bottom of this stratified epithelium are more compact and form a band from three to six cells deep. The outline of these cells is more regular and oval, while the nuclei are a trifle larger. The cells in the innermost layer are regular, closely packed, with dark granular nuclei, and come in immediate contact with the loose connective tissue beneath, which is seen extending in among the epithelial masses in long, slender finger-like processes. These finger-like processes appear to be the extension of slender papillæ from the underlying tissue, and are made up of a loose connective-tissue reticulum, and contain numerous small, thin-walled capillaries. They appear entirely normal. There is no apparent extension of epithelium into the connective tissue, and where the epithelium and connective tissue come in contact the epithelial cells are arranged with great regularity. In the outer horny zone there are many twists and quirls, somewhat necrotic, which appear like epithelial pearls.
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> Summary: There has been a tremendous proliferation of stratified squamous epithelium, with a transformation of the superficial layer into keratin, and a tendency to the formation of epithelial pearls, while many slender connective-tissue papillæ project up among the epithelial layers from the underlying tissue. In giving a diagnosis we incline to consider it a benign papilloma, though the tremendous proliferation of squamous epithelium and the tendency to the formation of twists, which resemble epithelial pearls, is suspicious. Should malignancy be present, however, we should not hesitate to say that we believe it to be exceedingly slight and with no tendency to metastasis.

There are two features of this interesting case to which I wish to direct attention. The first is that of diagnosis. The symptoms presented at once direct attention to the larynx and indicate an obstructive lesion. Inspection of the larynx confirmed this suspicion and revealed a neoplasm. The peculiarities of this neoplasm is what attracts our attention, viz., a whitish, glistening excrescence limited to one side of the larynx, not materially interfering with the respiration—we are now considering the case in the early stages—not yet producing serious alteration in the voice, and unaccompanied by pain or cough.

By the process of exclusion we are enabled to determine what it is not, but the same process was not successful in revealing its true nature. Syphilis was first thought of, only to be rejected after a full trial of the therapeutic test. The location and many features of the case suggested the most common laryngeal growth, viz., papilloma, but it by no means answered to the usual appearance of growths of this nature. On several occasions pieces the size of a pea were removed and submitted to the pathologist for examination. Reports were received from two pathologists; while there is a difference in the phraseology of the two reports, they are as one in regarding it as of an essentially papillomatous character, though differing materially from the ordinary forms of growth in the larynx; this difference is manifest in the large number of horny epithelial cells in the outer layers. Mackenzie, in his early works on laryngeal growths, intimates that papillomatous growths may be of a whitish color, but lays no particular stress on growths of this character; I believe such an acute observer surely would have done so had he met with one. Lennox Browne also speaks of papillomatous growths as of whitish appearance, but with no separate mention. Bosworth says papillomata may be grayish-white in appearance.

It has been my privilege from time to time to present this patient to the section on Otology and Laryngology of the College of Physicians. There was much difference in the views of the Fellows as to the probable nature of the case, but there was unanimity as to its uniqueness. In a rather hasty review of the literature of laryngeal growths little has been gleaned to throw light on the present case. Gleitsmann's case, presented at the meeting of the American Laryngological Association in May, 1896, is similar to it in many particulars; unfortunately, he was not able to follow the case to its termination. The pathological examination of the growth in this case is strikingly similar to the case here presented; the diagnosis of the pathologist was papilloma durum, probably malignant and perhaps carcinomatous. The history of our case points strongly to malignancy, and yet the microscope at no time, either ante-mortem or post-mortem, shows positive evidence of its existence. Clinically it would seem that originally the growth was of a papillomatous character and had suddenly taken on malignancy, possibly because of intralaryngeal manipulations.

Note the apparent quiescence for a period of nearly two years, and then a sudden and remarkable activity and extension within a few months. Is not this the history of a benign growth taking on malignancy?

The second feature of the case to which I wish to direct attention may interest the anatomist rather than the laryngologist. The anomalous position of the trachea constitutes an unlooked for difficulty and seriously complicates tracheotomy. The trachea is found to bend abruptly backward at about the fourth ring; this leaves a space in which to open the trachea, between the lower border of the thyroid cartilage and the fourth tracheal ring, a distance in the present case of a trifle over 1 inch. The greater portion of this space is occupied by the isthmus of the thyroid gland, which, under the disturbing circulatory changes of the laryngeal stenosis, is inordinately vascular and, hence, enlarged. Now, if one considers the undesirability of the high operation, in cases of laryngeal obstruction which practically rules this operation out, we are [illegible] the difficulty such an anomalous condition offers to the operator.

The peculiar anatomical position of the trachea clears up the difficulty encountered with the tube. At the fourth tracheal ring the trachea bends almost abruptly backward. The incision into the trachea is between the third and fourth rings, so that less than 1 inch of trachea is left between the incision and the abrupt bend. As the length of the segment in most tracheal tubes is a trifle over 1 inch, it is readily seen that the lower end of the tube impinged against the horizontal portion of the trachea and was thus forced out of the wound.

It is not the object of this paper to discuss the treatment, but the history of the case would scarcely be complete without some reference to the plan followed and to others that were contemplated. As an aid to diagnosis, pieces of the growth were removed; after having the pathologist report, an effort was made to clear the larynx. Much difficulty was experienced from the toughness of the base of the growth, which permitted us to remove only very small pieces at a sitting, and those were quickly reproduced, though always at the original site.

Intralaryngeal operations were abandoned after a thorough trial. The intention then was to do a preliminary tracheotomy and later split the thyroid cartilage and thoroughly clear the larynx. Months before the trachea was opened the advisability of thoroughly clearing the larynx by the extralaryngeal method was determined on. The patient, however, was very irregular in his attendance at this time and could not be made to appreciate the gravity of his situation.

At no time was the subject of laryngectomy considered, for the reason that clinically or microscopically there was no reason to suspect malignancy.

DISCUSSION ON PAPERS OF DRS. DICKERMAN AND GIBB.

Dr. J. Wright, New York City—I have been much interested in the last case because it helps to clear up in my mind one or two other cases that I have seen. The case of Dr. Gleitsmann, which was referred to by the last speaker, I had the pleasure of examining, and it presented a most singular appearance. It was pearly white with a papilliform appearance. The diagnosis was uncertain and is uncertain to this day. With the report made by Dr. Gibb in connection with the case I saw this winter, it seems to me that the three cases when put together clear up the nature of the trouble pretty well. The case I saw this winter, in connection with Dr. Dudley, was a case in which the growth appeared on the soft palate, and was the size of a quarter of a dollar, just back of a false plate the gentleman wore in his mouth. The patient was 72 years of age. The smoke passed directly from the end of the cigar, across the false plate and struck the soft palate without any interposition of the tissue in front. There this growth appeared. It was somewhat like a smoker's patch, and yet the extreme thickness of it seemed to rule that out. It was probably an eighth of an inch thick, with the edges sharp cut. At one side, dipping down into the tonsillar tissue were one or two islands. A piece was taken off and submitted to a pathologist for examination and an unhesitating diagnosis of carcinoma was made, which, from the age of the patient, and I confess somewhat from the appearance of the growth, made me agree with the diagnosis. The history extended over several years and there was no infiltration of the glands around it. The man was in too feeble a condition to justify the removal of the growth. On a later examination of the case I could not make out any malignant tissue. The cells which were rapidly proliferating were dropping into the lymph spaces, and these cells were not showing any evidence of malignancy. After consultation the growth was snared off with a cold wire snare, and in spite of our apprehensions the whole thing healed over and the patient inside of five days was relieved of all his symptoms and has remained well until this day. The condition is not a true papilloma, but a local hyperplasia of the tissue.

Dr. E. Fletcher Ingals, Chicago—Some ten or twelve years ago I saw a patient once or twice in consultation on account of a growth very much like that described in the paper. It was pearly white, firm to the sense of touch and had an appearance as if it were made up of columnar tissue, the ends of the columns having been cut off at the surface of the growth. This growth extended across one side of the larynx, above the cord, occupying the whole of the opening of the ventricle, and the lower part of the ventricular band. A portion of it was cut off and submitted to a skilled microscopist, who reported to me that it was a small-celled sarcoma. Within a few weeks tracheotomy became necessary, but the patient lived.

I was much interested in the excellent paper referring to laryngeal papillomata in young children. I recall a couple of cases of especial interest because of the treatment. One of these, a child ten or twelve years old, I saw before I was very adept in the use of instruments, and I had great difficulty getting hold of the growth, but finally I succeeded in pinching it hard. This growth was immediately below the cords and as large as a good-sized pea. I did not succeed in removing it that time, and the child did not return for a week or two, and then I found the growth had entirely disappeared. When I saw the patient some years afterward there had been no recurrence. In a little boy four or five years of age whom I treated about three years ago, I succeeded in examining the larynx very readily, but could not use the forceps. However, after rubbing the growth vigorously two or three times with a sponge, it entirely disappeared and there is no recurrence. I have tried the autoscope in children with laryngeal tumors two or three times and have been able to see the growth fairly well, but I have not had good results with it in operative measures. I had hoped we would get considerable assistance from it, especially with the children under an anesthetic, but I have not succeeded. I should like to know the experience of others with this instrument.

Dr. Norval H. Pierce, Chicago—In reference to Dr. Gibb's paper I wish to say that in my experience the laryngoscopic picture is not infrequently of only negative value in the diagnosis of laryngeal carcinoma. The appearance of the neoplasm, as well as its location and consistency, is often inconclusive. This is especially true of the first stage of its development. Later, we are oftener more or less able to positively identify the nature of the neoplasm by means of the laryngoscope alone. But the microscope will ever be the court of last resort, in this matter, as it is in so many others, for it is only by means of a structural examination of the tissue composing the growth that we may arrive at final conclusions, and even after such microscopic examination only positive results may be regarded as conclusive. It is generally admitted that the whitish-gray color, or refractive whitish surface, of a growth in the larynx is not by any means characteristic of malignancy; but it may be said on the other hand that many ulcerated carcinomata do possess this pearly-white color, which in a way is peculiar. In my opinion this coloring is due to a secretion which is derived from the juices of the malignant neoplasm. I have found that this coating is readily decomposed by peroxid of hydrogen. The surface of the tumor is then quite changed, being, instead of smooth, more or less granular, and, instead of pearly white, is pink or red or mottled. It has occurred to me that by means of this simple procedure we might differentiate in some cases between a malignant growth and benign hard papilloma, such, for instance, as Jurasz has reported, in which a vocal band was the seat of a diffuse chalk-colored, conical mass which was pronounced by several of his colleagues to be carcinomatous, but on careful microscopic examination after the death of the patient proved to be an absolutely benign hard papilloma. I repeat that if the peculiar juices of the carcinoma produce a somewhat characteristic coating on the surface of the growth as it occurs in the larynx, then the decomposing action of peroxid of hydrogen may be of diagnostic worth in aiding in the differentiation of laryngeal cancer from tumors which do not possess such juices.

Dr. W. B. Johnson, Paterson, N. J.—I think these cases of papilloma are of an interesting character, because so little seems to be accomplished by any form of treatment that is employed. Most of the cases that have been reported seem to have resulted in spontaneous cure without any definite knowledge of just what the cause was. I wish to say that I have used in such cases the application of formaldehyde, working on the theory that if absolute alcohol was good and was supposed to abstract water from the tissues, formaldehyde would be a better remedy. I am sorry to say that I can not report that the application of formaldehyde was successful. I have used intubation a number of times in preference to the tracheal canula. I have understood from others who under similar circumstances have used intubation, that it is a common occurrence for the papillomatous growth to grow over the top of the tube. Such has not been my experience. I am now treating a case with absolute alcohol spray used frequently, and am waiting patiently to see the result. One thing has suggested itself in the nature of an inquiry, and that is whether or not it is desirable to perform tracheotomy in cases of this character before dyspnea becomes very troublesome, for the purpose of allowing the parts complete rest.

Dr. Otto Joachim, New Orleans—I wish to bring to your notice a case in which the clinical history is very much the same as given by the Doctor. The symptom of recurrence was especially pronounced. The patient was a girl about six years old. The removal of the growth was not difficult, but recurrence was persistent, and it seemed the more I interfered with the tumor the more rapidly it grew. I finally made a laryngotomy, curetted the growth, and thoroughly cauterized it in the hope that this would terminate the condition. But this hope was fallacious. The treatment had extended over the greater part of the winter and spring, and when vacation time came on I left the patient in the hands of my assistant with instructions to use absolute alcohol locally. During my vacation this was used solely and continuously. I would not say that the use of absolute alcohol cured the patient, but at all events in the fall the growth had disappeared. I have seen the child frequently since, for a period of two years, and there has been no recurrence. There was some trouble in extubation and curing the fistula, which, however, was readily overcome.

Of the class of papilloma reported by Dr. Gibb, I have in mind three cases. The first one was not a case of my own. I had, however, an opportunity to make some microscopic sections of the growth and the report thereof was published in the *Archives of Otology* in 1887 or 1888. The second case was my own in which a diagnosis of horny papilloma was made, and it resembled the Doctor's case very closely. For two years the condition seemed to be in a quiescent state, but after that it became fulminant and rapidly fatal. In the third case the lesion was at the base of the tongue, very large and characteristic, about the size and shape of half an egg. The pathological condition agreed with the appearance of the case demonstrated by Dr. Gibb.

Dr. H. Stillson, Seattle—There seem to be papillomas and papillomata, and I have no doubt each member present says to himself, when the gentleman before him has finished speaking, "there are others." It seems to me our diagnosis of papilloma should go further into differentiation. I recall a case, which I suppose belongs to the classification given by Dr. Gibb and which has been mentioned as a hyperplasia by Dr. Wright, in an infant 12 months old. [illegible] growth was located on the frenum of the tongue, and [illegible] of an inch in diameter and somewh[illegible] what it was, nor do I know [illegible]ly ivory-whit[illegible] was [illegible] with it and [illegible] wh[illegible] I gave a place[illegible] as a mouth [illegible] it [illegible] in a few [illegible] ject. [illegible] had [illegible] few [illegible]

Dr. N. L. Wilson, Elizabeth, N. J.—In regard to the application of alcohol, I had a child 6 years of age whom I kept under my observation three years. After trying almost everything, after scraping the growth out twice, tracheotomizing, intubating, and having the intubation tube fall down into the trachea, I finally made up my mind to leave the child alone and find out what nature would do, and the result is that the child is well. I had made applications of alcohol by spraying it into the larynx. The growth sprang from beneath the right true cord. That made me think our friend had possibly overdrawn it when he said that alcohol would cure these cases. I have had cases, however, where the growth sprang from the larynx above the cord, and by making these topical applications, preferably with the canula, I have seen the growth shrink. One case now under treatment is much better than three months ago, although as yet the patient is not cured of her papilloma.

Dr. Taut—It appears to me the latest treatment of papilloma has been entirely overlooked. Two years ago I intubated for this difficulty and finally did a tracheotomy, and then the child drifted out of my hands and is now under the care of the "Christian Scientists," and if the gentlemen will visit the *Pan-American Congress* I shall be very glad to report the results.

Dr. Mackenzie—I have nothing to add to what is already known on the subject. I will simply say in connection with the dissolution of these growths by topical applications, that I believe one of the best of all topical applications, alcohol included, is sulphate of zinc. I have used for a great number of years a combination of sulphate of zinc and other things, but the chief ingredient is the sulphate in the proportion of two or three grains to the ounce. Years ago, when I was in Bellevue Hospital, I used a preparation consisting of 16 or 17 grains of sulphate of zinc, about 2 ounces of compound spirits of lavender and about 6 ounces of water, which acted very satisfactorily in shriveling up venereal warts on the genital organ. Since then I have used a modification of the solution on the throat in shriveling up small remnants left after operation on the larynx and also after operations for adenoid growths. I think in most of these cases it will be necessary to do a preliminary tracheotomy or laryngotomy. Much time is lost in the futile attempt to remove such growths through the natural passage. Especially in small children no time should be lost in performing preliminary tracheotomy, splitting the thyroid and removing the disease in its entirety. We can accomplish much more in that way than in picking away at the larynx over a considerable length of time. My experience agrees with that of others, that the growths often disappear spontaneously after preliminary tracheotomy. But that requires time, and if time is an element I think the best plan is to split the larynx and remove the growth at once in its entirety.

Dr. Emil Mayer—The case presented by Dr. Gleitsmann has been mentioned and I can add a little to the subsequent history. Dr. Gleitsmann said the last he understood was that the man was dead. A year after he made that statement the patient walked into my clinic and I inquired why he had given the impression that he was dead. He said the Professor was so interested as to come all the way out to one of the adjoining townships from New York City that he thought something dreadful was going to happen and he hid himself and his people reported that he was dead. I tried all manner of persuasion to get a portion of the growth for examination, but the patient disappeared and I do not know where he is. So, gentlemen, the statement that he was presumed to be dead may be refuted; at least he was living one year after the paper was read.

Dr. Gibb, closing the discussion—I am very glad to hear the report of so eminent a pathologist as Dr. Wright; it certainly adds weight to the opinion we had already given. I was likewise very much interested in Dr. Mayer's description of the termination of Dr. Gleitsmann's case. Anybody who reads how Dr. Gleitsmann chased this patient all over Brooklyn can appreciate the Doctor's remarks. I had hoped the discussion would take up, besides the pathological side of the question, the anatomical feature. At the meeting in Washington one of the members said tracheotomy sometimes is a formidable operation, and in this it was a very formidable operation because of the position of the trachea. The position of the trachea was an unforeseen difficulty, which one would not think of had he not seen a similar case.

THE RECIPROCAL RELATIONS BETWEEN CONSUMPTIVES AND SOCIETY.

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No medical or economic problem at the present time can assume such a degree of importance on account of its almost universal application, and the degree of individual and state responsibility involved, as the prevention of pulmonary tuberculosis. This disease is known to affect approximately one-third of our population, and to constitute one-seventh of our annual deaths. Several millions of people in this country are now afflicted with a tubercular process, known to be communicable rather than hereditary. Practically, its transmission occurs, not so much from infected food-supply as from the existence of an almost ubiquitous agent disseminated by means of the sputa of infected individuals.

That the disease is thus communicable should not be understood to be so much the result of direct infectin from one person to another, after the manner of certain contagious diseases, but more because of the neglect to observe necessary precautions. There is thus permitted a wider distribution of the bacilli, whose continued presence in the home and in public places constitutes a source of danger to those rendered susceptible by occupation, manner of life, previous disease, inheritance and environment. Only to those especially predisposed is the disease communicable, and even to these, scarcely ever from a single exposure. Not only is the infection incremental in character, but rarely is the first infecting process known to exist after it is once acquired. More frequently is it the repeated infection which the individual resistance is finally unable to overcome without the recognized manifestations of the disease.

Despite these established truths, together with an actual diminution of the mortality-rate in recent years, wherever reliable statistics have been obtained, the fact remains that the welfare of the commonwealth is seriously threatened. The dark shadow of consumption still hovers over countless homes. There exists a foe in our very midst more dangerous than an invading host, and for whose complete subjection and the consequent safety of the people, there is required only a small fractional part of the energy and means that are expended in prosecuting a war of conquest, or in an imaginary effort to uphold national honor. To one whose sympathetic attention with reference to tuberculosis is constantly forced to the contemplation of the direful results of apathetic indifference and ignorance from some sources, and an immoderate professional attitude, with popular intolerance from others, there certainly remains much to be desired toward the practical solution of the tuberculosis problem.

Consumption is now recognized to be a distinctly preventable and largely curable disease, and hence should be prevented and cured when possible. Does there not exist, therefore, an imperative obligation upon the state to secure adequate protection for the community, and suitable provision for the care of those afflicted? This responsibility rests indirectly with the medical profession in its advisory capacity on matters pertaining to public health. The physician should be confronted with his obligation to consumptives no less than to society. Fortunately a wise and conservative regard for the needs of each class need inflict no hardship upon the other. Their interests are actually identical, and their relations should be reciprocal. That they are not so regarded at present is a reproach to the profession and should serve as an incentive to more active measures pertaining to the inspection and control of the disease, and to more duly considered methods of popular education. It is to be regretted that the advocacy of such extreme procedures as the isolation and segregation of consumptives, the placarding of houses, the necessary cremation of the dead, the enactment of laws governing marriage, and similar considerations have served only to inspire exaggerated feelings of alarm. It has been my observation that the public generally entertains no just conception of the manner in which the infection may be conveyed, and hence no appreciation of the comparatively slight danger of contagion under ordinary precautions. In like manner, it is quite unusual to meet consumptives who have received any competent instructions pertaining to the protection of the community. An unreasoning fear with a general prejudice on the one hand, is opposed on the other by a certain disregard for the rights of society, together with a natural resentment due to the humiliation imposed, and lack of moral support. It is apparent that the safety of the public must be exalted above the pride and sensitiveness of individuals, even though they constitute a large portion of the population. It is equally true that the burden of the consumptive should not be made harder to bear, and his chances to recover from a curable disease made less by reason of erroneous popular impressions and an inflamed public sentiment. Each class has its inviolable rights, and they should be made incontestable. It is incumbent upon the medical profession to recognize the claims each has upon the other, and in the capacity of arbiter to adjust apparent differences without injustice to either, and with broad sympathy for both.

What claims can be presented by each, and what measures can be instituted to satisfy them?

If pulmonary tuberculosis is preventable, the consumptive has a claim upon society by virtue of the very fact that he has become an innocent victim of the disease. He has been permitted to suffer a continued exposure to infection after having been subjected to such conditions of ventilation and hygiene as to bring about an increased susceptibility. Both the exposure and the lessened resistance have been to a great extent preventable. Who has jurisdiction to prevent, if not society? And if so, why is not the state morally responsible for its failure to do so?

It must be admitted that the consumptives of to-day, previous to the inception of the disease, had not been warned sufficiently of the practical dangers of infection, and instructed concerning intelligent measures of prophylaxis.

While this obligation on the part of society is now being fulfilled to some extent, it can not be said to apply to the great majority of those already afflicted.

Another claim of the consumptive upon society, and one reflecting directly upon the medical profession, is the distressing delay in securing accurate diagnosis. It is only with reference to early cases that consumption can be said to be a curable disease in the sense of its permanent arrest. Mistaken or delayed diagnosis at this time almost invariably associated with results of a most disastrous nature. The failure on the part of the medical profession to adequately appreciate the significance of rational symptoms, to recognize and interpret accurately the physical signs, has occasioned an annual sacrifice of thousands of human lives. The responsibility is more apparent when it is understood that too frequently the available data have been amply sufficient to warrant an early provisional diagnosis.

Referring to my observations previously published[1] on a series of 546 selected cases in private work, it is stated "that 388, or 71 per cent., arrive in Colorado with distinct evidence of tubercular infection in each lung." With reference to the duration of the disease before arrival, the total average period of delay from the time of definite onset of the disease, was a little over eighteen months, affording abundant opportunity for advanced pulmonary and constitutional impairment. "Is not the character of the cases sent to Colorado a striking commentary on the necessity of a more thorough appreciation of the principles capable of every-day application upon which to base early diagnosis?"

Has not the unfortunate victim of such delayed diagnosis a just claim upon the profession, and through it upon society, which in many states places no restrictions upon and enforces no qualifications for medical practice?

Another consideration to which the consumptive is entitled, is that of humanity. The pulmonary invalid is a human being and is not subjected to the same ultra-scientific principles that would be accorded the lower animals. He is above all entitled at the hands of the state to every energetic provision that may save or prolong life, and to every sympathetic attention that may help to alleviate suffering. Especially is this true of those who have not the means to subsist without work, independently of their more fortunate but often no more worthy fellows.

If the state is called on to provide institutions for her non-consumptive poor, who are frequently reduced to poverty through their own responsibility, and who are never to resume their functions as citizens, but are destined to forever remain as a burden to society, how much more should the state be obligated to provide similar institutions for those who have suffered, usually through no individual liability, who represent an entirely different class of citizenship, and who in many instances, with such a provision, can resume their duties and former positions in the community.

This claim of the consumptive poor is re-enforced by the added protection to accrue to society itself, through the control thus offered of those unable in their ordinary environment to observe sanitary precautions.

What are the claims of society with reference to the consumptive?

Inasmuch as the invalid, in the absence of certain precautions incident to his daily life, is a direct source of contagion, and therefore a menace to his family and the public, and whereas, a strict conformity to prescribed instructions actually prevents him from becoming an element of danger, it becomes incontrovertible that society has the right to expect and demand of the consumptive the most rigid observance of sanitary rules, the most hearty co-operation and willing submission in the way of conservative municipal control. Popular prejudice and drastic legislative measures may inflict added burdens upon the consumptive, but the one purpose to be attained, public protection, will have failed of accomplishment if there is not secured his individual desire to faithfully perform his part. It is the invalid himself to whom our efforts must be addressed, and these in the form of instructive and persuasive appeals. With the acknowledgment of its own obligations, society justly will receive a recognition of its claim upon the consumptive. Through an active educational propaganda, these claims will meet with a ready response, the exception being only with those who are very ignorant or vicious, and for whom special detention institutions may be erected for the public weal.

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[1] Medical News, Sept. 30, 1899.

As to the various means that may be employed to satisfy the joint claims of consumptives and society, it is primarily essential that there should be a uniformity of method in the several parts of the country. A concerted plan of action under national authority would be most effective.

A distinct bureau of public health, elaborating upon the excellent work now done by the Marine-Hospital Corps, having an advisory jurisdiction over state and county societies, and exercising immediate authority over all officers of public health, would do much along the lines of preventive medicine, if such could be made practicable without infringement upon the rights of states, and without the taint of national politics. It is to be feared that in some instances personal political ambition has biased the health authorities to an undue enthusiasm in the administration of public office. For such responsible positions men should not be selected as a result of political preferment, but should be chosen by their fellows on account of their peculiar adaptability to faithfully execute such labors, for which greater compensation should be rendered, commensurate with the arduous responsibilities involved.

The campaign of education and municipal control should include at once the compulsory notification and registration of all cases of pulmonary tuberculosis. This does not imply placarding of houses or apartments, isolation, or other personal humiliation, but furnishes an opportunity for more thorough inspection and supervision. Interference with social aspects and business pursuits is uncalled for. Quarantine and segregation are altogether impracticable. The family ties of several millions of people are not easily disrupted. Segregation is alone feasible and desirable in the case of the consumptive poor. It should be made clear that notification and registration does not carry with it the contemplation of interference with personal rights, unless rendered necessary by the repeated and intentional infractions of prescribed regulations. Notification should be made obligatory upon patient, physician and householder, and failure to comply should be punishable by fine. Periodical disinfection of apartments should be made under the supervision of the health departments, and always done following the death of the patient. It should be no hardship for the consumptive to be in a position to receive competent instruction from some responsible source, either directly or through the attending physician. By this means, added protection is accorded to himself and family as well as to the community.

The methods of instruction directed to the consumptive with his family, and to the general public should be to impart an appreciation of his obligations to society, and to secure his active, unremitting coöperation. He should be supplied with carefully prepared circular information explaining the dangers of infection and re-infection, describing in detail all necessary preventive measures, with an emphatic demand for their observance. It is of vital importance that all official information afforded the general public through any channel whatever should be essentially of a reassuring nature, although not minimizing the possible dangers resulting from the presence of the careless consumptive. Through the medium of public documents for general free distribution, the newspapers and public addresses, the public should be informed concerning the comparatively few methods of possible infection. It should be made clear that the infection can be thus conveyed only through gross violation of the simplest precautionary measures, and that a due regard for such sanitary rules afford protection from direct infection despite intimate and protracted association. It should be explained that the infection is exceedingly slow and rarely results from a single exposure. It should be emphasized that unless the soil is rendered receptive to the bacillus by lessened individual resistance, infection is unlikely, despite more or less exposure. Apropos of this, attention should be called to the necessity of greater individual care concerning mode of life, occupation and environment. The hygiene of the home should be discussed at some length, with especial reference to ventilation and sunlight.

In addition to these more direct methods of instruction through the medium of the profession, there should also be instituted a degree of governmental or municipal supervision of the construction of public buildings, tenement houses, factories, commercial establishments and conveyances. Ordinances should be enacted and enforced prohibiting expectoration on the sidewalks, crossings, or in any public place where people walk. Offenders should be punished for repeated violation of this. The objection to the occasional expectoration upon the street or in the gutter, disgusting though it be, does not appear of great practical significance, as far as actual danger is concerned, in view of the more direct exposure to sunlight, the frequent sprinkling and the fact of the bacilli not being kept in circulation and carried to the home by the sweeping skirt.

The spectacle of the use of the expectoration flask is revolting and hardly necessary. Small napkins of cheese-cloth held over the mouth in the act of coughing, to serve as a receptacle for sputum, and subsequently deposited in bags made of oil-silk, oil-muslin, or rubber, capable of disinfection, are infinitely more satisfactory from every standpoint.

Of surpassing importance is the matter of sanatorium provision for the various classes in appropriate climates. I can but take vigorous issue with those who fain would regard the influence of climate upon pulmonary tuberculosis as a "fetish of the past," now replaced by sanatorium régime. It is a matter of record that the satisfactory results obtained in the few institutions of this kind, without the most favorable climatic attributes, is largely due to the fact that only incipient cases are admitted. Disclaiming any desire to detract from the intrinsic worth of such institutions, I am forced nevertheless to make the query, "Have we evidence to substantiate the claim that the improvement in each case has been invariably due to the sanatorium itself?" Would not the same régime observed outside the institution have been attended with results almost, if not quite, as good? It is well known that a considerable number of incipient cases get well in the less favorable climates even despite unfortunate conditions and environment, in the absence of rational measures, and often without the knowledge of the tubercular character of the affection.

It has been my experience in Colorado to observe patients presenting a history such as would be applicable to these cases, and showing after the lapse of several years, a record of a fresh infection. Upon arrival, in addition to the recent tubercular process, evidence is occasionally found, upon physical examination, to justify the theory of a previous infection, subsequently arrested.

I feel warranted, therefore, in asking if the heralded results of sanatorium treatment in unfavorable climates in incipient cases are not due in some measure to the simple relief from work, changed surroundings and detailed instructions, at least a portion of which could have been secured in many cases by the same competent medical adviser outside his institution. I have chanced to meet several such sanatorium cases that have experienced a return of their trouble, and have sought climatic improvement as more advanced cases after a disastrous period of delay. I am impressed that the sanatorium life for consumptives is of value largely by virtue of the enforced regimen, which appears to be practicable without the aid of the institution, especially among the better classes. There can be no question, however, of the improved facilities for the management of the consumptive poor, and even those less embarrassed financially, in properly conducted sanatoria in any climate. This, however, should not be construed as constituting an argument against the greatly increased benefits to be derived from appropriate climatic influences. While local sanatorium accommodation should be made for the consumptive poor in every state, I would strongly advocate the construction of special institutions in various regions applicable to the several stages and complications of the disease. Such sanatoria should be adapted to the special needs of the particular class for which they are erected, opportunity for outdoor employment being offered in some to those whose physical condition will permit, as a means of defraying expense. A number of these institutions could be under the control of one or several states jointly, some under federal supervision, and still others directed and maintained by the several benevolent orders and societies. It is for those in more or less financial distress that sanatoria are specially demanded. There is at present no provision for the enormous class of consumptive poor, who, unable to work, and rejected in turn by all the charitable hospitals, appeal despairingly for relief. For these there is now no alternative but death.

In these times of unexampled prosperity, have not our impoverished consumptives, with this preventable and curable disease, a claim upon society that can no longer be ignored. It is not a time for pedantic assertions concerning marriage laws for the pulmonary invalid, the undesirability of tuberculous offspring and the care of the consumptive dead, etc., but a practical application for the benefit of the living of those humanitarian instincts ever ready to respond to the call for help. A determined public effort toward the arrest and amelioration of the disease in those unable to help themselves would also be attended by prophylactic results of a most satisfactory nature.

THE PRESENT secretary of the navy of Portugal, Dr. Tiexura de Sauza, is a physician.

THE SERUMS IN TUBERCULOSIS.*

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TOXINS IN THE TREATMENT OF TUBERCULOSIS.

The remedial use of these poisons has practically been abandoned. Inaugurated by Koch, who saw good results in the use of tuberculin in certain cases of lupus, his incomplete investigations were pushed into publicity prematurely by over-sanguine officialism in Germany, and great was the general disappointment and the damage to Koch's well-earned reputation when our hopes vanished.

Later, Klebs preconized another form of tuberculin called "antithesine." Much was claimed for this so-called modified form of Koch's original tuberculin, and it was used for a while as a remedy for tuberculosis. It did not add luster to the already high reputation of this scientist, and to-day it is not in general use.

Then came Dr. Von Ruck's antithesin. Von Ruck has for a few years published great promises about this agent, which he has named "watery extract" of the products of the bacillus of tuberculosis, and of which different varieties are offered. It is urged that this preparation is free from certain poisonous elements existing in other tuberculins, by virtue of which, irritation and fever are produced.

These toxins are each one form or another of tuberculin, the poisonous products of the germs and their culture, and all are modifications of Koch's original agent, repudiated by himself and his followers as a therapeutic measure. Finally, in the last three or four years, Koch recommended still another tuberculin which he termed "tuberculin residuum," T. R. for abbreviation. It consisted of a product including the natural poisonous liquid of a broth culture of the germ of tuberculosis and the toxins of the structure of these parasites, extracted by a process of pulverization, mashing (?), centrifugalization, filtering, etc. The revived hopes it created by the magic of Koch's name passed into oblivion within a few months of the first report.

Such are the toxins of the tubercle bacillus of which we have records as medicinal treatments for the "white plague." Only one remains in evidence, namely, Von Ruck's watery extract, for which he and some of his followers have established seemingly reliable, but in fact dangerously misleading, records, for their chief reports were made at the health resorts of North Carolina and Colorado, where equally good results have been obtained by numerous physicians by good management and climate alone.

The merit of all these products, if indeed they have any, which I do not deny to a certain degree and under proper circumstances, depends wholly on the poisons which they contain. If all the poisons are abstracted or neutralized, the product becomes bland, it becomes as water. If only certain kinds of poisons are abstracted it becomes modified in its toxic properties to that extent; and to that extent also it is depreciated in the power to produce reaction. Now, the toxin of an infectious disease is utilizable as a therapeutic measure only to the degree that it may, by reaction of the system, produce a measure of immunity more or less complete. That means vaccination. Vaccination is not a curative, but a preventive measure, and consequently should be applied before the existence of the disease against which it is desired to vaccinate. We do not vaccinate against smallpox after but before the disease has invaded the system. Hence, the claims of the tuberculin adepts, that any kind of tuberculin is specifically curative, is not sustained by any scientific fact from disinterested sources. Its application must be limited to the very early cases in which the lesions are slight and the activity of the germs localized. Then it may be possible for tuberculin to establish a certain degree of immunity before the localized infection has taken on too serious activity.

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The peculiarly effective action attributed to watery extract can be of no other character save that depending on a graded degree of blandness, or virulence if you please, affording a gradual exhalation of effects with less irritation, than by the administration of strong toxins at once.

We see from these data that none of the tuberculins have any general established merits as remedial agents against tuberculosis. Nor have we any reliable indications whatever that they may be used safely to advantage as vaccinating agents in human beings in the sense underlying anti-smallpox vaccination. In my judgment their only meritorious sphere so far is the field of diagnosis in cattle, which you kill if you find infected. I must differ from the views that it should be used as a means of diagnosis in human beings suspected of being afflicted with tuberculosis, but showing no sure sign of it. With the light before us, we are not justified in provoking in a human body a fever which may ignite the tubercular spark which nature was in her own way smothering, with 50 per cent. of chances in her favor of success without the physician's interference. It would be better to treat such cases as pretuberculous, and not arouse any inflammatory conditions anywhere, far less in the infectious foci.

SERUM IN TUBERCULOSIS.

The idea of serotherapy in general may be traced back to Maurice Reynaud's observation prior to 1888, when he discovered that the serum of vaccinated heifers at the seventh or eighth day conferred immunity to vaccinia in susceptible subjects. Next came Richet and Hericourt, in 1888, who by their experiments with a pyoseptic germ in animals, pointed to the probability of certain virtues in serum. Afterward, Behring established that serum was not an inert matter, but rather, in some sense, a vehicle carrying a vital principle, to which it was but natural to at once attribute an important rôle in the resistance of individuals to infections. This staggered the Metchnikoff theory of phagocytosis, and for a time lent ammunition to its adversaries. But far from annihilating it, it explained its philosophy much more clearly than its founder and his followers had succeeded in doing before. It pointed to the means by which the leucocytes destroy germs and their poisons in the system. Afterward Behring and Kitasato clearly demonstrated the effect of the immunized blood-serum against tetanus on one hand and diphtheria on the other. These investigations were sustained by Roux, of Paris, and others. Every one is familiar with these discoveries. I only need allude to them as a historical step in serotherapy in general.

Not very long after Koch's failure with tuberculin, Maragliano, of Italy, doubtless stimulated by others in France, notably Richet, who had experimented with serum of the dog and goat in consumption, recommended the natural serum of the ass in the treatment of consumption, on the ground that that animal is comparatively immune to this disease.

All these sera failed to produce permanent or even semi-constant beneficial results. In 1894, the writer experimented, in St. Louis, with horses, which he immunized against tuberculosis by graded and persistent injections of tuberculin, germ structure poisons (long before Koch preconized his tuberculin T. R., which is practically the substance here given), desiccated germs, and finally by the injection of pure virulent cultures of the bacilli administered both into the circulation and connective tissue. This was the first effort made in any country to produce immunized serum to use against consumption. The product was used in 1894 and 1895 in the St. Louis City Hospital in a series of tubercular patients of various kinds and degrees of involvement. The first report about them was made in the spring of 1895.

To comprehend the limits and possibilities and fallacies of serotherapy in tuberculosis, permit me to specify the properties of serum and then to explain them briefly.

1. Serum contains toward some microbes a positive bacterial power, which is destroyed at less than 60 C., whilst against others it does not.

2. It may be rendered capable of acting as a preventive, that is, immunizing agent, by a different element than that responsible for bacterial power, because the immunizing virtue resists a temperature of 70 C., i. e., less than the bactericidal power does.

3. It contains an antitoxic property which was long confounded, and is still in a measure, with the other properties of serum by many, particularly the superficial investigators and biased speculators, and the practitioners who have financial interests in confusing the professional mind by maintaining an error to sell their wares, which are not wanting in variety and incongruity in the therapeutics of tuberculosis. It is here that the advocates of the tuberculin or extracts of tuberculin under any name find a motive for their pleas.

4. Finally, as a therapeutic agent, not of serum itself, but of the figured elements of the blood from which it is obtained, there exists in serum the action of the leucocytes on soluble poisons. Let us understand these properties.

Bactericidal Power of Serum.—It is natural, not acquired. This influence is exerted on the micro-organisms themselves, and not on the system in which they live. This was demonstrated, in 1888, by Behring in natural rat-serum with regard to the anthrax bacillus. Speaking of serum pure and simple, twenty-four hours of contact prevents cultures of mixtures of serum and certain germs. But it is not a preponderant influence. It is not constant. In the white rat, refractory to anthrax, the bactericidal power of the serum may be only coincidental; on the other hand, while we find cases in which immunity exists in connection with a germicidal power of the serum, we find the contrary in other animals. For instance, the serum of rabbit's blood is bactericidal for the germ of anthrax, yet this animal is remarkably susceptible to that disease.

Again, the dog's blood is not germicidal to the anthrax germ, and yet that animal is comparatively immune to anthrax. So we conclude that the germicidal power of serum is not a preponderant factor in producing immunity, nor is it generally to be counted on as a constant or general therapeutic agent. Nor is this virtue of great importance as a resisting power against disease.

Note that this power is destroyed at 55 to 60 C. without injury to the other properties. Consequently this faculty is a biologic one, the nature of which remains undetermined. The theories of Hankin and others that they are alexins, globulins, etc., have not been proved. But it does not resemble the globulicidal power.

Preventive and Curative Faculty of Serum.—First it is produced by the early action of disease elements. However, it may have a natural existence to a certain degree. As stated, this property was and is confounded with the antitoxin effect. Yet it is altogether different. Definite reliable antitoxic powers have been established satisfactorily only in the serum for tetanus and diphtheria. The preventive power is much more general than the antitoxic and far less specific, but it is comprehensive, valuable, and therefore useful in therapeutics. Researches on cholera, pneumonia, typhoid fever, etc., have demonstrated experimentally that in all these afflictions the serum of animals vaccinated against them protects a new organism, but remains without effect on the culture products of the causative germ. Thus, animals become immune, temporarily at least, to these maladies, without the action of antitoxins. How is it done? By cell stimulation, increasing phagocytic power and cellular nutrition. Metchnikoff demonstrated that, in hog cholera for instance, and others have done just the same with pneumonia, vaccinated animals resist the disease; that sick animals are cured by serum and yet no antitoxic power measurable by Behring's law exists. It is here, in this virtue, that we find assistance in the treatment of tuberculosis. It is a strong stimulation of the organic resistance. Metchnikoff and others have seen a stimulation by the preventive faculty sufficient to produce a large increase of leucocytes in the blood or about the locality of local lesions. I have observed this phenomenon locally in tuberculosis in man and beast. Diphtheria antitoxin, on the contrary, may reduce the leucocytes. It is also stated by Srabritchensky that the zymotic action of the leucocytes is augmented.

The Antitoxic Property.—It is artificial, not natural. Büchner thought this faculty the same as the preventive faculty. It is not, for it is not destroyed by heat in twenty-five minutes at say 65 C., which kills the immunizing faculty mentioned before, for pneumonia, cholera, typhoid fever, etc. By experiments, Behring and Kitasato arrived at a means of calculating the ratio of antitoxin necessary per weight of animals injected with diphtheria or tetanus toxins, thus measuring precisely the quantity of antitoxin necessary to neutralize the power of a given quantity of toxins which, without the antitoxin would prove fatal. Hence the idea that the antitoxic power is due to a chemical agent acting directly on the toxin of the germ, which it does not kill. This task remains for other phenomena, chiefly phagocytes. The recent theory of Behring that the antitoxins are due to the so-called "side-chain" atoms of the proteids which are necessary to functional activity, and which are increased by the action of bacterial poisons and then circulate in the blood as antitoxin, is most fascinating and supports the opinion of chemical antagonism. Thus we see that the germicidal, defensive and the antitoxic powers are different faculties. The first is natural and inconstant, but kills some germs; the next influences the organism in which the germs develop and may arrest microbial growth that way; the last or antitoxin power exerts itself on the toxic products only.

Action of Leucocytes on Soluble Poisons.—This tentative theory is not so well established as those first mentioned. It is reasoned from the experiments of Chatendy and Metchnikoff. These show that the poisonous action of germ poisons, vegetable toxalbumins or a serpent venom, are absolutely comparable to the action of infections, i. e., they produce hypoleucocytosis if the animal is sensitive or gravely ill; hypercytosis in cases of resistance. The theory is that the phagocytes by selective affinity absorb the poisons, as the cells absorb stains for instance, and that in those cells these poisons are destroyed by a cellular diastase on the principle that pepsin and trypsin can destroy the toxin of diphtheria and tetanus. Such are the biologic properties of serum.

The physiologic properties consist of influences apart from the infections, and are of utmost importance, though meagerly considered or ignored by the practitioner.

1. There is the globulicidal power of the serum, which consists of the faculty of the blood-serum of one animal to destroy the red blood-cells of another. This occurs as well out of the organism as in the circulation. This property, however dangerous in therapeutics, can be destroyed by the proper laboratory processes too often neglected, but which should be insisted on. It also suggests that we should not introduce therapeutic sera directly into the circulation.

2. The coagulating power of the serum means that the animal-serum introduced in the blood of another may produce coagulation by the precipitation of febrin. Richet pointed out this danger, and I have seen it realized. But this property also may be destroyed by laboratory processes.

3. The toxic power of the serum may produce symptoms of intoxication, with myosis, temperature, dyspnea and eventually convulsions. This property is attributed by Mr. Bosc to albuminoid substances. I am convinced, however, that this is not the only source of this unfortunate faculty. It may come from numerous causes dependent on ill health of, on digestive troubles in, the animal supplying the blood, thus creating soluble poisons which circulate in the plasma. It may come from the poisonous waste of metabolism, when an animal is bled and the blood is loaded with unknown quantities of toxic substances in process of transformation or on their way to excretory channels.

All of these are important questions, which the practitioners should insist must have been properly respected by the producer of the sera of any kind that he uses—a condition that I know some producers wholly neglect.

Is the applicability of serum in tuberculosis warranted by the general facts established of the serum properties? If so, when, how and in what cases? What serum should we use? What may we expect?

To the first question I answer, yes. Serum is applicable as a remedial measure. It has, by virtue of some of the effects mentioned above, curative properties. I point with gratification to the recovery of 29 cases of pulmonary, throat, bone, joint, kidney and testicle tuberculosis that recovered under my observation and with serum treatment exclusively in most of them, from the states of Missouri, Louisiana, Indiana, Illinois, Ohio, Pennsylvania and Iowa. These patients were treated, with few exceptions, in the city of St. Louis, and all of them under climatic influences fatal to consumptives. I have kept track of most of them and they are in the enjoyment of sufficiently good health to-day, four or five years after their treatment, to keep at their various occupations.

When and how to use serum are questions that belong to practice.

What sera should be used? That is a very important point, as I have just stated. As you have seen, serum naturally possesses dangerous properties that must be eliminated. Some sera for various diseases are not thus purified. I have tested many in which the poisonous properties are thus retained.

Can serum be depended on as an agent to produce lasting immunity against tuberculosis? In the first place, I believe that immunity against this disease is probably always relative and limited as to degree and duration. But it is measurable to a degree, and to that extent serum may be useful. But, although I have long experimented with, used and tried to perfect serum, I am still of the opinion from which I have never departed, assertions to the contrary notwithstanding, that serum is not yet to be depended on as an infallible *immunizing agent in the sense attributed to* diphtheria serum. Being in the line of natural law, and having preventive and curative properties, it is often a useful remedial measure in a great many cases. It has its sphere of good influence in the hands of the discriminating practitioner. But in a disease as complex and complicated as tuberculosis usually is, we can not, in justice to our patients or ourselves, afford to neglect any and every other means possible to arrest the disease where it exists, and to prevent the occurrence where it is not. Management, climate, nourishment, serum, everything useful should be resorted to, taking care always, in every single case, to treat the patient according to the conditions existing, according to their merits, in other words, individualizing instead of generalizing.

HOW SHALL WE INDUCE IMMUNITY IN TUBERCULOSIS?*

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When an organism has been infected with pathogenic germs to such a degree as to produce a disease, and spontaneous recovery occurs, a change has taken place, so that the specific germ which produced that disease can find no longer suitable soil for multiplication and growth, and hence its deleterious effects on the tissue-elements cease to exist. This changed condition we call immunity. Some individuals possess this immunity naturally to a marked degree, while others exhibit only a very feeble resistance to bacterial organisms. It is relative also in degree in different races. For instance, tuberculosis is comparatively rare in the Hebrew race, while in the American Indian we find great susceptibility. Immunity is never general, conferring protection against all contagious or infectious disease, but always special, according to the disease, rendering a person perfectly invulnerable to one and not to another.

Some infectious diseases differ, as diphtheria, while others, like tuberculosis, retain their local character for long periods of time.

Statistics show that in from 25 to 50 per cent. [illegible] sies made on the bodies of those who have died diseases, evidences of former tuberculosis are apparent either in the healed or latent form, and in which nature appears to have accomplished the occurrence of immunity against further advance of the disease. That this is a physiologic process there can be no doubt. It has been proven by experiments on animals that artificial immunity can occur by the use of the tubercle bacillus substance in the form of some one of the pure culture products, as that of Koch's tuberculin or of Von Ruck's Watery Extract. If natural immunity is possible in the human subject and artificial immunity can be produced in animal experiments, may we not inquire why natural recovery so often fails to take place?

"Immunity depending on the products of the specific germs, why do the products formed by the tubercle bacilli, in the infected tissues of tuberculous patients, so often fail to induce it, not only in the local and chronic cases, but also in those in which the disease is disseminated?" On a correct answer to this question depends the basic principle of successful therapeutic measures for the real cure of this disease.

In tuberculosis we have no such intoxication as occurs in diphtheria, and formation of tubercles may occur without any acute symptoms. This points to the absence of specific toxins which Von Ruck claims,[1] and with much apparent reason, to be accounted for by the circumscribed localization of the primary lesion, by its slow extension, by its non-vascularity of tubercle, by its rapid degeneration, but above all, by the resistance of the tubercle bacillus to disintegration, and to giving up its contained proteids to the blood, owing to the presence of large quantities of fat in the non-soluble cell-wall composed largely, if not entirely, of cellulose. As a proof that none, or but extremely small quantities, of specific toxins are liberated, he points to the great similarity of tuberculous patients, especially in the early stages, to the artificial introduction of specific toxins, to which they react with general symptoms to a degree that the toxins are used as means for diagnosis. On the other hand, he points to the fact, that beginning with very minute doses, the specific toxins can be introduced in constantly increasing quantities without any general disturbance or toxic symptoms. If he is right, we can readily see why this immunizing substance is not available at a time most needed by the system.

Victor Vaughan, whose views coincide with Von Ruck's, asserts that: 1, marked artificial immunity to an infectious disease has not been obtained except by the introduction into the animal of the germ substance, either inclosed in the cell-wall or in solution; 2, sterilized cultures contain the germ substance in one of these forms; 3, the same immunizing substances exist in the bodies of the bacteria grown on solid media and killed by chloroform; 4, the same immunizing effects, varying, however, in degree, are obtained with bodies of dead bacteria morphologically intact, or in solution, with the living bacteria modified or reduced in virulency." Analyzing these propositions, we infer that acquired (artificial) immunity may be induced in two ways, 1, by an attack of the diseases ending in recovery, and 2, by inoculation with the specific toxin.

The immunity that results from an attack of the disease is caused by the entrance into the organism of living germs more or less virulent, and to whose stimulating qualities the organism is yet able to respond [illegible] causing the obscure change in [illegible] become antagonistic to the [illegible] vaccination in variola is due to the introduction of germs, living, but modified more or less in virulence. That which is secured by the artificial introduction of specific toxins is produced in like manner, but without the presence of virulent germs, the toxins having been separated outside of the body.

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* Read before the [illegible], Char[illegible] Feb. 21, 1900.

[1] [illegible] 1. p. 94.

With these facts before us, the conclusion is inevitable that the immunizing substance is contained in the bacterial cell, that each kind of pathogenic germ has its own peculiar toxin, which in small doses confers immunity, and it is that part which gives to the germ its distinctive qualities.

The practical methods of inducing immunity reduce themselves to one and the same principle, that is, the introduction of germ toxins into the body.

The immunizing function which has been induced in an individual organism can, however, not be transmitted to another organism. Leaving, therefore, those principles upon which immunity rests, and viewing the question from a practical standpoint, may we not inquire whether we can, in the treatment of tuberculosis, imitate nature in her method of cure, by supplying artificially the toxin of the tubercle bacillus, and introduce it into the human organism in such a manner that it will safely and effectually arouse the latent energy of the tissue-elements, which will in turn produce immunity? The solution of this question rests on the etiologic principles enunciated, and must lead to the conclusions which are eminently scientific and logical.

Are we actually in possession of the required substance, and what is its nature? Is it a toxin or an antitoxin? Can we safely administer it without undue reaction which would be dangerous to the patient, and at a time when immunity would be of no avail, and before the patient is hopelessly doomed?

Is the blood serum from an animal previously treated with specific toxins such a substance?

A horse is rendered immune to diphtheria by the use of specific products of the Klebs-Loeffler bacillus. As a result, an antitoxin is generated in some organ or organs of the horse and circulates in the blood. When the blood clots, the antitoxin is found in the serum. If this serum is injected into a diphtheric patient, in a sufficient quantity and at the right time, the patient will become immune to the diphtheria poison for the time being. But this immunity does not actually belong to the patient. It is stolen property. It still belongs to the horse. The cells of the horse and not the human cells manufacture the toxin. The horse can not transmute any of its antitoxic functions to the sick person.

In tuberculosis we may find a parallel in this illustration. If it be true that immunity consists in the capacity of the organism to protect itself from the deleterious effects of pathogenic micro-organisms, and the tubercle bacillus substance itself is the essence of the bacterial germ which immunizes the system, there can be no reasonable basis for the claim of the production of immunity by antitoxin serum. The adoption of this theory would abrogate the principles of cellular activity. It contradicts a general biologic law that the necessity for a function creates a function, or, stated conversely, the disuse of a function destroys it (Peavy).

Carl Fisch, an exponent of serotherapy, admits that "the amount of toxin present at any one time in a tubercular organism is not great, and it would be absolutely absurd to think that by neutralizing it the disease could be stopped." "Owing to the slow production of the toxin it is impracticable to charge the organism with a great amount of antitoxin, since it would have disappeared long before being called to act." He says further, that the amount of antitoxin in his serum is comparatively small and that there is no present means of increasing its potency, and that beside the toxin immunization, it is the only treatment which rests on a scientific base, and that the imperfections in serotherapy should not be a contraindication for its employment.

From these views we make the deduction that continued protection from tubercular invasion would necessitate the continued introduction of antitoxin, which is impracticable. If an artificially introduced antitoxin is an intimation of nature's method of cure, it would seem reasonable to suppose that, if in a disease as essentially chronic and local as is tuberculosis, immunity is conferred, it would be necessary to supply the system continuously and indefinitely in order to preserve the immunity and prevent a relapse.

Trudeau and Von Ruck in reporting their experiments for the purpose of proving the value of serum preparations for tuberculosis made by themselves and by others, found that in no instance could they discover any germicidal or immunizing properties in the different serum preparations, and seem to accept the plausible theory of Professor Koch, that a serum that would neutralize the toxic effect of a tuberculin product might not prevent the growth of tubercle bacilli in the tissues, nor their destructive action in the organs of the body.

On the other hand, turning to the direct toxin method of cure, we see greater hopes for success. If the immunizing substance is contained in the specific germ only, and the successful immunization with Tuberculin R and Watery Extract of tubercle bacilli has been obtained in the animal experiments, which facts are attested by various colaborers in all parts of the world, why should we hesitate to adopt this method of treatment? Its safety, especially with the Watery Extract, having been observed by myself in patients of Dr. Von Ruck and my own, in all stages of the disease, leaves in my mind no doubt that the immunization of tubercular patients by the direct or toxin method is about to pass beyond the experimental stage, and become one of the fixed and recognized therapeutic modes of procedure in our battle against this formidable enemy of mankind.

The superiority of the Watery Extract over all prior tuberculin preparations consists in the fact that this is a pure solution of the tubercle bacillus substance, repeatedly filtered through porcelain, and therefore containing no fragments of isolated virulent germs, removing the apprehension that through the use of tuberculin preparations the tubercle bacilli might become transplanted to other healthy portions of the body.

Of course, the earlier the disease is discovered and treated the greater will be the benefits from such specific treatment. Its use can not be expected to heal and repair the destructive lesions caused by the softening and liquefaction of degenerated tubercles. All it can do for such is to fortify the remaining healthy tissues against the primary disease, and prevent the eruption of a new crop of tubercles, and the further such cases have progressed in the degeneration and destructive processes the more will it be necessary to bring to our aid the additional resources of diet, hygiene and climate.

New Method of Vaccination Against Anthrax in Cattle.—Arloing states that the successive or simultaneous injection of anthrax virus and serum from an immunized heifer will successfully vaccinate animals. He has succeeded, by using attenuated cultures, in conferring preventive immunity on cattle with a mixture of virus and serum requiring only .5 c.c. of the latter for one animal.

CASE OF FATAL FETAL ICHTHYOSIS.*

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NEW YORK CITY.

Maternal History.—Strong, healthy peasant woman, native of Sicily, 30 years old, has never been ill according to the statement of herself and mother. Neither she nor any member of her family has had any eruption of the skin, and no trace of syphilis, alcoholism or tuberculosis in this woman or her family could be elicited. Menstruation began at 14 years and has been regular and normal. There has been no uterine disease. She has had 6 pregnancies: the first 10 years ago; the second 8 years ago; the third 4 years ago; the fourth an abortion at 40 days, the cause of which is unknown; the fifth pregnancy was 2 years ago, and the sixth the present fetus. All of the pregnancies, except the fourth one and the present, were normal in every respect. In January, 1899, the woman was much distressed over the illness and death of her child, which she was nursing. She menstruated in February, 1899, the exact date of which she has forgotten.

History of the Pregnancy.—The woman was much pleased to find herself pregnant. Nothing unusual was noticed until the last two months, when she seemed larger than in former pregnancies and found it difficult to lean forward; for twenty days before the birth of the child she had had much pain in the back. She had worked, as usual, at her occupation of finishing trousers during her entire pregnancy, working from 6 a.m. to 11 p.m. Although closely questioned no history of a maternal impression could be obtained, even after a suggestion that there might have occurred some impression during the pregnancy. Nothing could be ascertained except her grief for the child which had died. The pregnancy terminated October 17, 1899, about two weeks before the woman had anticipated. In the evening of October 15 the woman was seized with pain in the back and a discharge of water. A midwife, who was called, declared that labor had not begun. During the 16th there was some pain and continual discharge of water. After midnight on the 17th, acute pain began and the child was easily delivered by the midwife at 7 a.m. October 17, the head presenting. The mother's recovery was without incident. On the seventh day she was at work again on the trousers.

Paternal and Family History.—Father, 40 years old, is a day laborer, and a strong, apparently healthy man. He is not alcoholic, has had no eruptive disease of any kind, and was never syphilitic. Of the four children born to the couple, two were boys and two were girls. Two are now living. The first died of an unknown disease in Sicily, the last of bronchopneumonia in January, 1899. One of the two living children is markedly rhachitic, as was the child which died in January. The family presents the usual features of east-side, overcrowded, under-fed, ignorant people, and with another family occupies three small rooms, only one of which is light, a total of eleven persons in the apartment.

History of the Child.—It was seen first at 11 a.m., five hours after birth, during which time it had been lying in a dirty bread-pan, wrapped in a single layer of cloth. It had passed both urine and meconium. The child was admitted at once to the New York Infirmary for Women and Children. It was wrapped in cotton, after having been anointed with oil. The child cried continuously, rather a penetrating cry of distress. Sleep was almost impossible. The child was disturbed only to keep it clean, as any jar of the crib or exposure to the air increased the crying. Respiration was irregular. The whole surface of the body was cold, and it seemed almost impossible even with hot-water bags to make it warm. Urine and meconium were passed at intervals. It was utterly unable to suckle, and swallowed milk from a dropper very imperfectly, with great difficulty, and only when the dropper was placed far back in the open mouth. The child died quite suddenly twenty-seven hours after birth. The temperature taken immediately after death was 103 F. The apparently increased distress, at the slightest movement during life, prohibited the making of any ante-mortem examination. The body during life, was at all times rigid and cold, and the extremities remained in the fetal position. The most marked symptoms were the incessant crying and the limited ability to sleep or swallow. So distressing were the symptoms that it was a great relief to the attendants when the child died.

Description of the Child.—The most striking feature is the absence of any resemblance between the child and a human being or any other living thing. The only part of the body that seemed capable of motion was the tongue. The body presents the appearance of having been incased in an integument much too small for the skeleton, and nature in an attempt to make it fit had so stretched the skin that it had been torn in some places completely through, and in others partly through. Where it was torn through, a purple-colored slit appeared; when torn partly through, a yellowish-colored fissure remained. There is no uniformity of arrangement of the fissures. Fewer are found on the back, and those on the extremities are more shallow. Neither is there any uniformity in their length or depth. The color of the fissure, a purplish-red, is in marked contrast to the color of the skin. In a few places bright blood is found, as if the break were of recent origin. The integument gives the same sensation as sole leather, namely, inelastic. The whole body is cold and rigid.

The scalp is divided into fissures and very numerous irregular conical projections, varying in size. A few thin hairs are found on the lateral surface of the scalp. The external ears are replaced by a collection of the conical projections. The external auditory meatus is found with difficulty.

The palpebral fissures are filled with purplish-red masses; deep down in the sockets eye-balls can be distinguished. Neither eyebrows nor eyelashes are numerous, only a few of each being present. The nose is flattened and is identified by the widely-opened nostrils.

The mouth is widely open, showing a non-hypertrophied tongue. The lips are of a purplish-red color and everted. Fissures and conical projections are present on the face. The mouth measures 5 cm. in length and 3 cm. in breadth; circumference of head, 31.5 cm.; glabella to occiput, 18.5 cm.; ear to ear, 15.5 cm.

The neck is short. Anteriorly a fissure extends from the neck to the umbilicus, 2 cm. in width. From this fissure ridges of yellow skin and purple fissures extend toward the axillæ; they are of irregular size and depth. There are eleven distinct fissures on the right side, and thirteen on the left. The circumference of the chest is 28 cm.; of the abdomen at the umbilicus, 28 cm.

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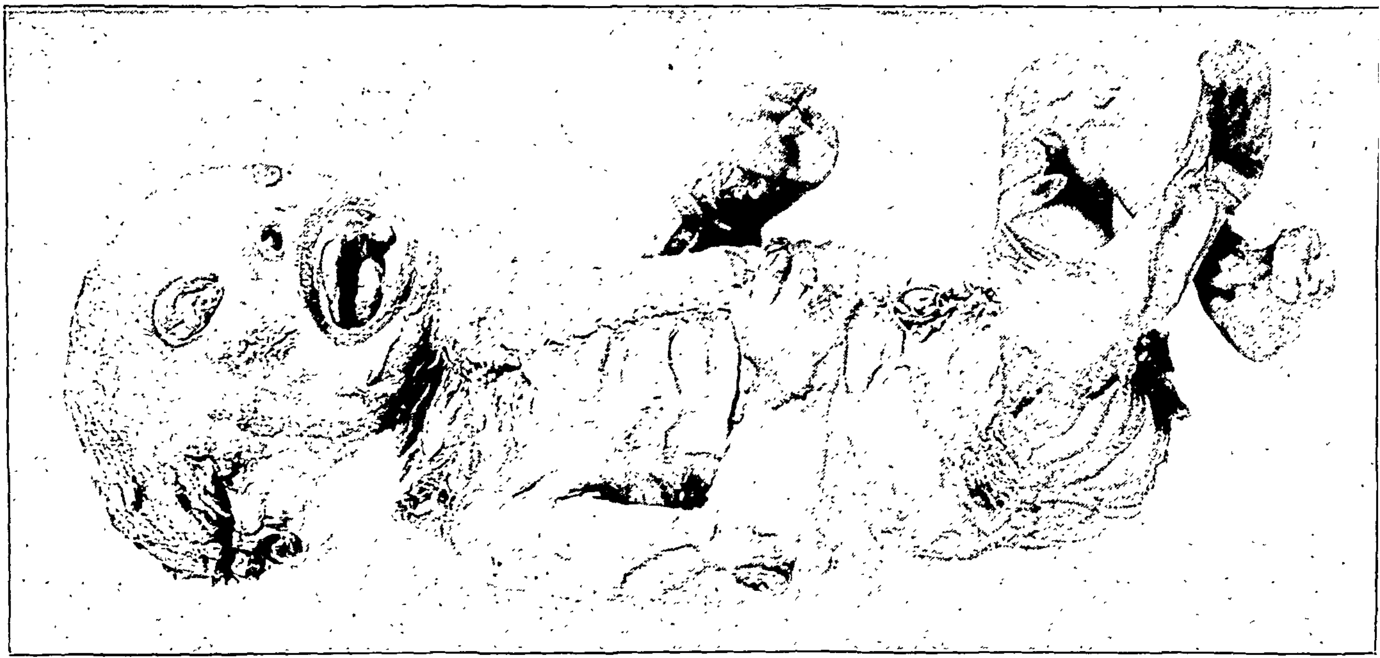
*Presented to the Section on Diseases of Children, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

The extremities are rigid and in the fetal position. The arms can be raised only at right angles with the body. They can not be extended at the elbow. The hands are thickened and the fingers are rudimentary. The legs are crossed, the right one over the left. The motion at the hip and knee joints is very imperfect. The toes are rudimentary.

The median raphe in the scrotum is faintly marked; testicles are not descended. The penis is ½ cm. in length, and the anus open. The length of the fetus is 42 cm., and its weight is 4 pounds 13 ounces. The placenta was destroyed immediately after birth by the midwife.

Dr. J. W. Ballantyne, of Edinburgh, collected and published in 1895 an exhaustive summary of the cases at that time known. The first case published was by Richter, in 1792. Ballantyne found 42 reported cases. Since then I have found 3 cases, one by Drs. Manning and Southworth, of New York, one by Dr. A. Wassmuth, and one by Dr. Gaetano Finizio, Naples, in *La Pedriata.*



Fatal Fetal Ichthyosis.

Of the cause of fetal ichthyosis practically nothing is known. That it is not a fatal disease *in utero* is demonstrated by the fact that only one case has been stillborn. In my case it was impossible to find any clinical cause for the disease.

An autopsy was performed on October 18, three and a half hours' post-mortem, the body having been kept on ice. A description of the general appearance of this eight-months' fetus has been given by Dr. Daniel.

The upper and lower eyelids are strongly everted, presenting two pouting masses of mucous membrane, which are firmly united throughout their entire extent. Eyeballs are found lying deep in the orbits. Over the right parietal region the scalp is boggy and is raised from the bone by a large amount of blood, which escapes on incision. A hemorrhage covers the superior surface of the cerebellum and medulla, the posterior two-thirds of the left temporosphenoidal lobe, as well as the lower half of the left parietal and occipital regions.

On incision, the skin of the thorax is found to be of leathery consistency and firmly adherent to the muscles beneath; a panniculus adiposus is absent.

The apex of the heart is found in the fifth interspace between the midclavicular and anterior axillary lines. The left ventricle and both auricles contain soft, dark-red clot. The heart muscle is apparently normal. The valves are normal, the foramen ovale showing a slit-like opening.

No pleurisy is present. Both lungs are mottled, bluish-red and pink, showing on section areas of atelectasis together with small areas of well-aerated tissue. Anteriorly there are small areas of emphysema. The middle lobe shows anteriorly a spot of emphysema about three-fourth of an inch in diameter; the remainder of the lobe is well aerated.

The bronchial lymph nodes, thymus and thyroid bodies, spleen, pancreas and adrenals are normal. The liver is congested.

In the stomach the blood-vessels of the mucosa are congested; the organ contains curds and a considerable amount of mucus. The rectum and lower colon are filled with meconium; the mucous membrane and walls of both are normal. The vermiform appendix is normal, containing meconium. The small intestine is normal throughout, the upper portion containing yellow pasty material. The mesenteric lymph nodes are dark-red and normal in size. The kidneys are lobulated and grayish-red; the capsule strips readily and the surface is smooth. On section the cortex is not thickened; the pyramids are pale; the markings are blurred. The bladder is contracted and normal.

Anatomical diagnosis: Fetal ichthyosis, cephalhematoma, meningeal hemorrhage, and atelectasis, with congestion of all the organs.

Material was taken from all the organs and preserved in formalin solution followed by alcohol. Cultures were made on glycerine-agar from the skin, lungs, heart's blood, thymus and thyroid bodies, liver, spleen, and kidneys. A bacillus in pure culture was found in all these organs. This bacillus was grown on the following media: Lactose-litmus-agar, glucose-agar, glycerin-agar, plain-agar, gelatin, potato, glucose, saccharose, lactose and neutral bouillon, litmus-milk and dextrose-free broth.

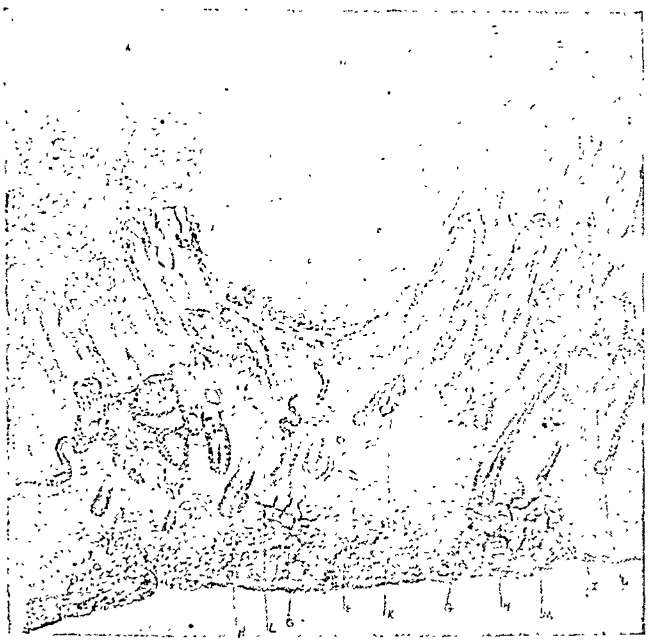
It was also tested by animal experiment, and showed morphologically and biologically all the characteristics of the colon group.

Bacteriological diagnosis: general infection with a member of the colon group.

Microscopic examination: In the skin of an imperfectly developed finger the layers of the epidermis are found less broad than normal. The corium is edematous, but the sweat-glands are normal. Intense congestion of the blood-vessels exists, the capillaries in the papillæ of the corium being widely distended with blood. A few small lobules of fat are found in the subcutaneous tissue.

The layers of the palmar epidermis, with the exception of the stratum granulosum, which consists of three layers of cells, show thickening, which is less marked however than in the skin of the back and chest. The papillæ of the corium are hypertrophied. The sweat-glands are very much increased in number resembling test-tubes in a rack, but are apparently normal in structure.

Sections were made through a portion of the skin of the chest, showing a deep fissure in the epidermis. Considerable hypertrophy of the papillæ of the corium exists. The elastic tissue is diminished in amount, and there is an edematous condition of the corium. The stratum Malpighii is thicker than normal; the stratum granulosum does not appear to be thickened. Both the stratum lucidum and the stratum corneum are much broader than normal, especially the latter, which is enormously increased in thickness . The rupture of the epidermis is in places seen to involve all the layers. The deepest cells of the stratum Malpighii are intact in places, but here and there the fissure extends beyond these, extensive hemorrhage due to rupture of the capillaries in the papillæ having resulted. The skin of the chest contains numerous hairs, whose structure appears to be normal. The sebaceous glands are normal in number, the nuclei of the epithelial cells within their ducts are markedly degenerated in some cases, and a horny layer is found lining the upper portion of the duct. The arrectores pilorum muscles are normal. The blood-vessels of the corium are markedly congested. The panniculus adiposus is poorly developed.



Section of Skin from the Thorax, Showing Fissure.
A. Stratum corneum. B. Stratum lucidum. C. Stratum granulosum. D. Stratum Malpighii. E. Hemorrhage. F. Dilated blood-vessels. G. Sweat-glands. H. Hairs. I. Sebaceous gland. K. Degenerated sebaceous gland. L. Arrectores pilorum. M. Panniculus adiposis. N. Fissure.

As in the sections described above, the papillæ of the corium of the scalp and all the layers of its epidermis are thickened, save the stratum granulosum. The hair follicles are very numerous and most of them are empty. Hairs when found are normal. The sweat-glands are increased in number. The sebaceous glands are numerically proportionate to the hair follicles and are normal in structure.

For purposes of comparison sections were made of skin from different portions of the body of a fetus of six and a half months, as well as of an infant at term.

The umbilical cord is normal. The aorta and the heart muscle of both auricles and ventricles are normal. The blood-vessels of the heart, as well as of all the other organs, are much congested. In the lungs large areas of atelectasis are shown. The thymus and thyroid bodies are normal.

The liver cells show cloudy swelling; the epithelium lining the gall-ducts is normal. The pancreas and adrenals are normal. Kidneys: general connective tissue normal; the epithelium of the secreting tubes shows granular degeneration, groups of tubules containing exudate; the epithelial lining of the loops is normal and the latter contain no exudate; the same may be said of the collecting tubes. All the blood-vessels are congested. The epithelium lining Bowman's capsules is slightly swollen in places; the Malpighian tufts do not all fill their capsules, the space between tuft and capsule occasionally containing exudate.

The intestine is normal but the peritoneum is edematous.

The mesenteric lymph nodes are normal, save for marked congestion of the blood-vessels.

Sections from the cerebral motor cortex, ascending frontal and occipital convolutions, as well as from the paracentral lobule, show edema of the pia and hemorrhage into its tissues. The brain substance appears to be normal.

The blood-vessels and nerves studied in numerous sections from the different organs are quite normal.

Sections stained for bacteria show rods scattered and in groups in the blood-vessels as well as between the tissue elements. In the skin, bacilli are found between the cells of the epidermis, having penetrated as far as the cells of the stratum corneum. The organism found was probably the result of a terminal infection, and not an etiological factor in the production of the disease.

Microscopic diagnosis: Ichthyosis, atelectasis, acute exudative nephritis and congestion of all the organs.

SUMMARY.

1. All the layers of the epidermis, save the stratum granulosum, are thickened, notably the stratum lucidum and the stratum corneum; the latter is enormously hypertrophied.
2. The corium is edematous and contains less elastic tissue than normal. The papillæ of the corium are hypertrophied and their blood-vessels are widely distended with blood.
3. The sweat glands are in some places markedly increased in number, but are normal in structure.
4. The sebaceous glands are normal in number, but their ducts in some cases, and occasionally their secreting portions, show degenerative changes. The arrectores pilorum muscles are well developed.
5. The panniculus adiposus is everywhere poorly developed, being almost absent in places.
6. The kidneys show the lesion of acute exudative nephritis. In the liver there is granular degeneration of the hepatic cells and the meninges of the brain show extensive hemorrhage. The other organs present no pathological changes save intense congestion.

Congenital ichthyosis has been studied by numerous observers. Ballantyne[1] made a very thorough study of the disease. He regards the descriptions of the microscopical appearances of the integument given by Kyber[2] and Carbone[3] as the best. The latter considered that the thickening of the epidermis was due entirely to hypertrophy of the stratum corneum. The rete Malpighii, with the exception of the interpapillary prolongations, he described as not only not thickened but in places actually diminished in breadth. He denies the existence of a stratum lucidum. The external root sheath of the hairs he finds greatly thickened and the hairs abnormally thin. According to Carbone's description, the sebaceous glands are usually atrophic. Occasionally the horny layer extends into the sebaceous ducts, the entire gland being at times converted into a cavity surrounded by horny walls. He finds no hypertrophy of the sudoriparous glands, noting only that that they are well developed. Kyber differed from Carbone with regard to the stratum Malpighii, describing it as increased in thickness and possessed of greater proliferating activity. He finds the sudoriparous glands hypertrophied. Ballantyne states that the corium does not show in fetal ichthyosis any marked departure from the normal.

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[1] The Diseases the Fœtus.
[2] Eine Unte rsale
Keratom der mens
[3] Un Caso di It le
1891. xv, p. 349.

The discrepancies seen in the pathological findings of Carbone and Kyber, Ballantyne explains by assuming that the case of Kyber was a more marked one than that of Carbone.

A. Wassmuth[4] in 1899 described the microscopic appearances in the skin of a case of congenital ichthyosis born at term. He notes thickening of the layers of the epidermis; in places he finds nucleated cells containing granules of keratohyalin, but he accentuates the fact that a proper stratum granulosum was not demonstrated anywhere save in sections of the scalp. The stratum corneum he found to be thickest in the scalp, palms and soles, and thinnest in the skin of the chest and abdomen.

Wassmuth found that different lamellæ of the stratum corneum respond variously to stains; he employed Gram's stain, recommended by Paul Ernst, for the detection of keratin, staining sections of the skin of fetuses of various ages as a control. He reached the conclusion that a differentiation of a stratum granulosum, stratum lucidum and stratum corneum in the integument in congenital ichthyosis is not possible, the early stages of keratinization occurring throughout the entire epidermis. Wassmuth emphasizes the fact that a fully developed stratum corneum does not exist, explaining in this way the abnormal breadth of the epidermis.

The stratum corneum is relatively thin in embryos as a result of maceration, which causes desquamation of the superficial layers. In cases of fetal ichthyosis exfoliation occurs only in moderate degree or not at all, and Wassmuth believes imperfect keratinization to be the cause.

Thickening of the stratum Malpighii, he thinks, accounts in part for the hyperplasia of the horny layer; furthermore the enlarged and numerically increased papillæ with their proportionately more complex capillary networks aid the increased development of the epidermis. He describes the papillæ of the corium as very high and numerous, "enormously increased in all parts of the body" and containing rich networks of distended capillaries. The sweat glands are described as everywhere increased in number and normal in structure. The sebaceous glands are increased in number everywhere save in the scalp; they are frequently somewhat enlarged and their ducts are at times distorted, being dilated and lined with a horny layer. The elastic tissue of the corium is diminished in amount and the panniculus adiposus he describes as well developed in skin removal from the back of the neck.

Recently G. Finizio[5] reported a case of fatal fetal ichthyosis.

A microscopical examination of the the skin of this fetus showed the stratum Malpighii to be of variable depth; in some places thicker, in others, especially on the plantar surfaces, thinner than normal. Mitotic figures are not more numerous than in the skin of a normal fetus of the same age.

Finizio questions the presence of a true stratum granulosum, but finds numerous cells with protoplasm containing deeply staining basophilic granules.

A well-defined stratum lucidum was not found; the layers of the stratum corneum are wavy in outline and have a reticular appearance. The connective tissue of the corium is infiltrated with lymphoid cells, the elastic tissue being normal.

The papillæ are numerous, large and richly vascular.

The sebaceous glands are well developed, some acini showing dilatation and degenerative changes. The sudoriparous glands and the arrectores pilorum muscles are well developed, the former especially on the plantar and palmar surfaces.

It will be seen that the microscopic appearances of the case described in this paper resemble in many respects those noted by Kyber and Wassmuth.

As a result of some influence not understood, the epithelial elements of the skin in this disease are apparently stimulated to active growth, the rete Malpighii sharing the general tendency to cell proliferation. Consequent upon this proliferation, the glands which are offshoots from the stratum Malpighii are increased in number. To meet the increased nutritional needs of the rapidly-growing epidermis the papillæ of the corium enlarge and multiply.

Discussion will appear next week.

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[4] Beitrag zur Lehre von der Hyperkeratosis diffusa congenita. Beiträge zur path. Anat. und Allgem. Path., 1899, p. 19.

[5] Su di un caso di ittiosi fetale grave. La Pediatria, Anno viii, N. 3. Marzo, 1900.

GASTROINTESTINAL HEMORRHAGE IN THE NEW-BORN.*

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PITTSBURG, PA.

On Sept. 18, 1899, a fine, plump baby girl, eight pounds in weight, was born. The mother was a primipara, and her period of gestation 290 days. The family history on both sides was good.

Labor pains came on strong at 12 a. m., and as they continued, but with little advance of the child, forceps were applied at 5 p. m., delivery being quite difficult. The cord was cut in about five minutes after birth. The child was somewhat asphyxiated, but in a few minutes was breathing nicely. She was put to the breast in about one-half hour, when she sucked finely. All the next day she nursed well, as all healthy babies should do. Her bowels were moved and she passed water freely.

On September 20, at midnight, when the baby was 31 hours old, she vomited and passed by the rectum some material which looked much like meconium. I saw the child in twenty minutes, when she seemed all right, but the nurse said that she had been cold and somewhat collapsed just after the hemorrhage. The material she had passed both by the mouth and rectum, looked like meconium mixed with blood. At 2:15 a. m. she passed some more material by the rectum, but none by the mouth. This was almost pure blood and quite profuse. It looked like the hemorrhage of typhoid fever. At 4 a. m. she had another hemorrhage per rectum. This was of pure blood, very profuse, saturating the napkin. She was in a state of great collapse, extremities cold, pulse scarcely perceptible, and I gave her 1/150 gr. of the sulphate of morphia and 1/5000 gr. of atropia hypodermically, applying warmth to the extremities. Albumin water and brandy were given by the mouth, and the child was enveloped in absorbent cotton, especially about the pelvis.

At 8 a. m. still another abdominal hemorrhage of pure blood occurred, and saturated the cotton; this left the baby practically bloodless, and the pulse imperceptible. She seemed to have lost all her fat, was all shriveled up, and looked like a child after an attack of cholera infantum. At 2 p. m. she passed a few dark clots. Her condition was now desperate, and she was very restless and irritable, with temperature 104 F. An ice-cap was put to the abdomen, hot-water bottles to the extremities, and albumin water and brandy given as before. One minim of aseptic ergot was given hypodermically. At 7:30 p. m. she was quieter, her pulse perceptible, temperature 99 F., and at 11 p. m. she was resting fairly well.

On September 21 she was crying, had slept some during the night, and had passed a normal stool. At 8 a. m. her temperature was 99F., and pulse stronger. At noon it was still stronger, and she took nourishment better. At 5 p. m. I ordered milk from the Walker-Gordon laboratory, as she would not nurse.

September 22, at 8 a. m., reports showed she did not rest well during the night, and refused all nourishment. At 4 p. m. she nursed for the first time since she had the hemorrhage.

On September 23 reports showed that she slept well during the night and was nursing well.

From this time on the baby continued to improve, though very weak and thin for several weeks. In about one month she was doing as well as though nothing had happened, and is now healthy. The umbilical cord did not separate until October 6, eighteen days after birth.

A great many causes have been given for this affection: infection; sepsis; hereditary syphilis; tuberculosis; hemophilia; purpura hemorrhagica; fatty degeneration of the fetus; plethora; general feeble state; atelectasis; cyanosis; asphyxia; tardy establishment of the respiratory and circulatory functions; congenital malformations of the heart; enlargement of liver and spleen; acute infectious disease, as smallpox, measles, etc.; change in the blood or blood-vessels; too speedy ligature of the cord; slow and difficult labor; external violence; irritant matter in the gastrointestinal canal, as worms or retained meconium; ulcers on the gastrointestinal surface, and hyperemia of the mucous membrane of the alimentary tract. Of all these causes but few were present in my case: asphyxia, tardy establishment of the respiratory and circulatory functions, and slow and difficult labor.

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*Presented to the Section on Diseases of Children, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

It is probable that one or more of the above etiologic factors are present in most of the cases and may possibly act as exciting causes, but these are so often present in thousands of births, in which no hemorrhage is seen, that it is difficult to assign one cause for many cases.

The fact that so many more of these cases occur in institutions than in private practice would point to an infectious nature. Drs. Kilham and Marcelis[1] report ten cases of hemorrhagic disease in the new-born as occurring in 54 births between Feb. 19 and May 11, 1897, in a New York Maternity, or 18 per cent., of which 5 had hemorrhage from the bowels and 2 from the mouth. The ward was entirely free from sepsis, there was no apparent cause for the hemorrhage, and the cases followed one another in quick succession, often overlapping, and ceased when proper measures were taken for isolation. Dr. Townsend[2] reports, in 6700 births in the Boston Lying-in-Hospital, 45 cases, or .67 per cent.; while in the out-patient department there were but 4 cases, or .1 per cent. This comparative prevalence in the hospital has no connection with septicemia, as the disease is practically eradicated from that institution, but occurs independently of it, just as thrush may get a foothold and flourish in a hospital, although it is not common in private practice.

Drs. Kilham and Marcelis made bacteriologic examinations in two of their cases and found an organism suggesting the diplococcus of pneumonia and probably belonging to the pneumococcus group. Gaertner found, in two cases, a short bacillus much like the bacterium coli commune. This bacillus, injected into the peritoneal cavity of young animals, chiefly dogs a few days old, produced a disease accompanied by hemorrhages resembling that seen in the newly born. (Holt.) Other observers have found various organisms: the streptococcus alone or associated with an organism having all the characters of the diplococcus of pneumonia; bacillus pyocyaneus alone or associated with the staphylococcus; bacillus lactis aerogenes; an organism with the characters of Friedlaender's bacillus. At present the results of bacteriologic examinations are very much confused, but they all seem to point to a specific cause.

The very definite course of this disease, soon ending in death or complete recovery; its self-limited nature; its greater prevalence in institutions; the elevated temperature, as in my case; the fact that it is in most cases a general and not a local disease, not limited to one spot, and the bacteriologic findings, all point to its infectious nature and suggest its relationship to the acute infectious diseases.

Hereditary syphilis is present in a small proportion of cases. Sepsis seems to be associated with a large number. Hemophilia is a different disease from this. It is an inherited one whose hemorrhagic tendency continues as long as the patient lives. Bleeding in hemophilia rarely occurs before the end of the first year of life. In hemorrhagic disease the sexes are about equally represented; while in hemophilia the proportion of females is 13 to 1. Circumcision has been done within a few days after recovery from the bleeding of gastrointestinal disease without any unusual hemorrhage.

Holt says that there is a class of cases in which the hemorrhages are not associated with any known process. These are characterized by the fact that they are spontaneous in origin, having no connection with delivery. They are most often from the umbilicus, the mucous membrane of the stomach and intestines, or beneath the skin, but they may be from almost any mucous surface or into any organ of the body. These hemorrhages probably arise from changes in the blood or in the blood-vessels, or in both, whereby the vessels are no longer able to hold their contents. The predisposing causes of bleeding in early life must be emphasized, viz: the fragile condition of the blood-vessels and the great changes taking place soon after birth in the circulation and in the blood itself.

Jacobi[3] says that the round perforating ulcer in children is more frequently met with in the newly-born and quite young than in advanced childhood. The causes of gastric and duodenal ulcers are very numerous. Some enumerate among these arterial anemia, others venous hyperemia or stasis in the hepatic vessels; or circumscribed hemorrhages into the tissue. Others assign thrombosis as the cause; others emboli, or lessened alkalinity of the blood, or hemoglobinuria. In this way hemorrhages and ulcers frequently go hand in hand, and often are the cause of each other. In the newly born, hemorrhages from the digestive tract are known by the name of melena. In the majority of cases melena occurs from localized and circumscribed ulcers, or from rupture of blood-vessels between the first and third day of life, rarely after the first week. It is caused by the sudden changes in the circulation occurring at and after birth. At that time, and from the same causes, is hyperemia of the mucous membrane found extensively, even in healthy babies. Hyperemia results in hemorrhage very much more frequently in the newly-born and in infants, because of the thinness and permeability of the walls of the blood-vessels.

This is a very serious disease. Probably one-half of the patients die. The mortality, acording to a number of writers, varies from 35 to 79 per cent. Townsend collected 709 cases showing a mortality of the latter figure. The prognosis in an individual case depends on the physical condition of the child, on its ability to take nourishment, and on the amount of blood lost. That the most desperate cases may recover is shown by mine, seen by several medical friends, none of whom would venture a favorable prognosis.

Townsend says: As regards treatment, if we have in mind that the disease is self-limited, we will not give up the case as hopeless, but will do everything to tide it over the critical period. Perfect quiet, most careful and persistent feeding from spoon or dropper, with milk drawn from the mother or wet-nurse, or careful artificial diet, may be all that is necessary to prevent a fatal issue. Warmth in the stage of collapse and alcoholic stimulants even in the stage of bleeding seem to be beneficial.

Holt says that the administration of drugs internally for the control of hemorrhage is entirely without influence on the disease.

Others recommend cold drinks, ice, ergotin, gallic acid, perchlorid of iron. If collapse is present, inhalations of oxygen, counterirritation, [illegible] normal salt solution are of use. [illegible] re[illegible] injections of astringent solutions, with the idea of reaching the site of the bleeding. This, however, is scarcely practicable.

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[1] Arch. Ped., March, 1899. [2] Ibid., August, 1894.

[3] Intestinal Diseases of Infa

The most recent mode of treatment is the use of a solution of gelatin, both by the mouth and by the rectum, with a favorable result in one case. My use of morphia hypodermically seemed to do more good than anything else. I looked upon this case as somewhat akin to the abdominal hemorrhage of typhoid fever, in which I use morphia similarly.

Discussion will appear next week.

CHRONIC INFLAMMATION OF THE TEAR PASSAGES.*

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Lachrymal disease constitutes from 2 to 3 per cent. of all eye cases. Of 95,596 patients treated in the eye department of the Illinois Charitable Eye and Ear Infirmary between the years 1859 and 1898, 2147, or about 2.25 per cent., suffered from disturbance of the tear-conducting apparatus. Females seem more liable to be affected than do males, in the proportion of at least 2 to 1. This statement seems somewhat strange from the fact that the latter suffer much more from atmospheric exposure, undoubtedly an indirect etiological factor of considerable importance. Fuchs explains this predisposition on the part of women to the "zealous use which the female makes of the lachrymal apparatus." We find the disease occurring in all ages. C. W. Hawley[1] has recently reported five cases of mucocele in the new-born, and clinical experience demonstrates that infants are frequently sufferers from lachrymal disease.

Any obstacle to the performance of the physiological function of the ocular drainage apparatus may bring about the condition commonly known as "watery eye." The normal overflow of tears may be impeded by malposition of the lids, stenosis or occlusion of the punctum, canaliculus, or nasal duct.

In order to thoroughly appreciate the pathologic conditions present, some knowledge of the anatomy and physiology of the parts is necessary. The conducting apparatus begins with two minute orifices, the puncta lachrymalia, situated on the free borders of the lids, and lying in contact with the eyeball, about two lines from the inner canthus. These openings lead into minute canals, the canaliculi, which pass inward and empty into a reservoir, ovoid in shape, the lachrymal sac. The dilated lower extremity of this sac forms the upper part of the nasal duct, which extends downward to its exit in the inferior meatus of the nose, the membranous walls forming valve-like folds at close intervals. Anatomically, there exists an intimate relationship between the lining membrane of the nasal duct and that of the turbinate bodies of the nose, this condition being of importance in view of the statement to be made later on concerning the etiology of dacryocystitis.

The normal function of lachrymal conduction is vested in a delicate mechanism in which the act of winking, capillary attraction of the canaliculi, muscular contraction of the sac, and valvular suction of the nasal duct undoubtedly play important parts.

The lachrymal sac is subject to both acute and chronic inflammatory attacks; the one occurring with all the usual symptoms of suppurative disorganization, the other, a sequel of an acute attack of severe inflammation, or often a quiescent inflammatory condition without previous subjective manifestations. The patient complains of a flowing of tears over the cheek. The eye is said to be "watery," and at the least exposure to wind or dust, fairly "swims" in tears. The vision is more or less interfered with, a frequent wiping of the eye is necessary to bring about a clear image. There may be present a blepharitis or an eczematous excoriation on the cheek in the region of the inner canthus, the result of irritation from the continuous overflow. There is generally present a distension of the tissue over the lachrymal sac, which may or may not have received the notice of the patient. The more observant will have discovered that pressure in this locality has caused a flow of viscid matter to enter the eye, or in exceptional cases to flow into the nostril. In a minority of cases, where there has not been sufficient retention of fluid in the lachrymal sac to distend the walls, mucocele may not be present.

The question often arises in a case presenting manifestations of epiphora, whether the excess of tears does not arise from some other cause than that of interference with the normal outflow. We all know that exposure, at times, to the elements, offending particles of dust, obnoxious gases, refractive asthenopia, photophobia from inflammatory conditions of the eye, atony of the muscles of the lower lid without noticeable malposition of the punctum, senility, violent outbursts of emotion, sneezing and vomiting, may cause an overflow of lachrymal secretion. In a suspected case, then, we have two methods to aid us in a clear determination of the case: 1. In a case of lachrymal blennorrhea, on making direct pressure over the lachrymal sac, the swelling will be felt to give way under the manipulation, and in most cases the viscous discharge already spoken of will be seen to exude from one or both the puncta on the margins of the lids. 2. The forcing of fluid through the passages into the nose will be found to be exceedingly difficult in chronic inflammation of the tear sac, the swollen and thickened walls or strictured lumen of the duct preventing free patency. Besides, a careful examination of the lids and eyeball for inflammatory manifestations and a thorough research into the refractive condition of the eye will, in many cases, tend to clear up any doubt concerning this symptom.

Inflammation of the lachrymal sac is, in most cases, undoubtedly an extension of a similar process from the nasal mucous membrane. The similarity of anatomical construction between the lining membrane of the nose and the nasolachrymal duct renders this extension easy of consummation. One would naturally expect, also, an extension of inflammatory process from the other end of the lachrymal tube, from the conjunctival surface as well, but it seems that this source of infection does not play an important part. In proof of this statement, it may be said that we very rarely encounter dacryocystitis as a complication of gonorrheal conjunctivitis or other severe ocular inflammation. On the other hand, it must not be forgotten that the conjunctiva and cornea are extremely susceptible to infection from perverse lachrymal discharge, especially if there be present an abrasion of the tissues. This matter is of extreme import to the surgeon, who should undertake no operative procedure on an eye thus exposed without at first removing or modifying the conditions present, and to the patient, whose chief danger from dacryocystitis lies in the extreme susceptibility of the wounded ocular tissues to infection.

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* Read before the Illinois State Medical Society, held at Springfield May 15–17, 1900.

[1] The Journal, 1900, Vol. xxxiv, p. 401.

Patients suffering from lachrymal disease have been, as a rule, subject to frequent attacks of coryza, and on examination will be found to present abnormal nasal processes. The extension of the inflammation has, by swelling and infiltration, narrowed the normal lumen of the duct, and in this way has formed an obstacle to the normal outflow of the secretion. The tears, conveying the micro-organisms which exist more or less constantly in the conjunctival folds, and which under physiological conditions are carried away to the nasal fossæ, are retained in the lachrymal sac, where exists an excellent chamber for the culture of bacterial organisms. The impediment to the outflow of retained secretion varies, in different cases, from a simple occlusion from swollen membrane and inspissated mucus to a true stricture of cicatricial formation. The latter condition, I contend, exists in not more than one-fourth of all cases, and where it is present is, in many instances, the result of faulty technique on the part of the surgeon in the passing of probes.

Chronic inflammation of the lachrymal sac sometimes occurs as a sequel of smallpox, measles and scarlet fever, exanthemata which present symptoms of nasal inflammation and irritation. Syphilis, by its necrotic inroads of the bony canal, may bring about an attack of dacryocystitis by mechanical obstruction of the passages.

The treatment of chronic inflammation of the lachrymal sac and nasal duct should be directed, 1, toward the removal of pathological processes and malformations of the nasal chamber, instrumental in the causation of the trouble in the vast majority of cases; 2, toward the restoration of the patency of the passages, with as little damage as is possible to the normal anatomical relations; 3, toward the alleviation of all factors conducive to the production of ocular irritation, reflex or otherwise, and 4, toward the proper correction of any existent dyscrasia.

The nasal fossæ should in all cases receive careful attention. Any abnormalities of the turbinate bodies should be remedied, especial consideration being paid to the immediate locality of the nasal duct outlet. The character of the nasal discharge should be modified by the frequent and thorough application of some alkaline spray, of which Dobell's solution is probably as efficacious as any.

The restoration of the normal caliber of the passages is a matter of the greatest importance, and the method in which this may be accomplished and drainage apparatus once more be made to perform its physiological function, is a problem on which ophthalmologists hold widely different opinions. Some surgeons slit one of the canaliculi and pass probes in every case, as soon as the diagnosis of tear-duct inflammation is made. Some incise the lower canaliculus exclusively, others the upper, and some, again, both. Some advise rapid dilatation by probes; others gradual dilatation. Some use probes of the minimum caliber, and increase only to a very moderate size; others use nothing smaller than a No. 8 Bowman, and frequently pass a No. 16 Theobald. Some, after slitting the canaliculus, insert a style; others, a canula. The passage of a probe is supplemented by some by a current of electricity; others have suggested the use of a medicated gelatine bougie as a substitute for the metal probe.

This wide variance of opinion regarding the management of these cases only tends to show with what degree of nebulosity we recognize the pathological conditions as they exist, and how empirical, to say the least, is our accepted mode of treatment.

In the first place, let us carefully examine and study each case as it presents itself, and determine as to the pathological conditions present. The dilatation of the punctum and the injection of a simple antiseptic, accompanied by scrupulous attention to the nasal chamber as before suggested, will in a certain number of cases suffice to relieve the constricted lumen of the passages and restore physiological patency. In those cases in which pressure on the sac causes a purulent discharge to exude, or the method just mentioned persistently carried out for several weeks, does not bring about an amelioration of the symptoms, one of the canaliculi should be slit up and a probe passed. The probes devised by Bowman are in general use. The question as to which canaliculus, the upper or lower, should be operated on does not seem to me to be a matter of much importance. Two points, however, should be borne in mind in performing this little operation: 1, make the incision entirely on the conjunctival surface of the lid by inclining the cutting edge of the knife slightly toward the eyeball; 2, slit up as little of the canal as is possible to allow of the passage of the probe. One-third of the length of the canaliculus is generally sufficient. By observing these simple rules the normal capillary or suction function of the canal, so necessary to retain, will be maintained.

One of the smallest probes should be immediately passed and repassed daily for two or three days, in order that the edges of the wound may not heal; after this short period, the intervals may be lengthened from two to three times a week to once a week, or even longer. The introduction of probes larger than a No. 8 Bowman in cases where there exists no true stricture of the duct seems to me to be wholly unnecessary in the average case, and to be extremely liable to injure the membranous walls of the passages, produce further thickening and cicatricial formation, and destroy the delicate valve-like folds of the nasal duct, even when exceptional care has been displayed in their use. In this connection it may be well to emphasize the importance of gentleness and precision in the passing of probes. One can not exercise too much care in their manipulation lest he aggravate the conditions already existing. A little patience and perseverence will oftentimes prevent harmful sequelæ. Another point to bear in mind is the importance of passing the probe the entire length of the nasal duct, for, as is well known, a common location of occlusion or stricture is at or near the duct exit in the inferior meatus. It is well, when in doubt, to examine the nasal chamber by reflected light, and with a fine applicator feel for the probe in position. The introduction of a No. 6 Bowman probe—having a caliber of 1.5 millimeters—will often give some idea as to the nature of the constriction present. If such a probe is evenly gripped and the impression conveyed that the walls are smooth, even though considerable steady pressure be required for introduction, we may conclude that there exists no true cicatricial stricture. Where the diagnosis of cicatricial stricture is made, the larger probes, or those of Theobald, may be employed. As before stated, however, true stricture of the nasal duct occurs in but comparatively few cases, consequently the passage of the Bowman series will, in most cases, suffice.

Probes sh [illegible] ition for [illegible] nutes, withdrawn [illegible] ed wit [illegible] tic or astringent solution by means of Anel's syringe. The saturated solution of boric acid is commonly used for this purpose. During the past year I have employed a 5 per cent. solution of argonin as an injection, and am led to believe it to be more efficacious than the boric or other solutions formerly used.

The home treatment of these cases forms a valuable adjunct to their successful management. The patient, or preferably an intimate associate, should be instructed in the method suggested by Gould, of alternate pressure and relaxation of the lachrymal sac, the patient reclining, the eye immersed in some antiseptic solution. This manipulation should be performed several times a day, with the end in view of emptying the sac of its effete contents and forcing the solution into the passages.

Refractive errors should be carefully corrected and constitutional disturbances remedied. Exercise in the open air and cold baths are indicated in the majority of cases. In cases unable to undergo a protracted course of treatment, the lachrymal canula or style may be employed. My experience in this connection, though somewhat limited, has been disappointing, and I seldom make use of them.

The instruction of the patient, or some member of his family, in the passing of probes, has been suggested by some surgeons for those unable to continue office treatment. This procedure I cannot approve of, for the reason that the maneuver, as already stated, is an exceedingly delicate one and should not be entrusted to the inexperienced. If the sufferer be unable to carry on the combined office and home treatment for a reasonable length of time—say three or four months—the canula may be made use of until satisfactory arrangements may be made to attend regularly.

The ancient practice of sac extirpation in obstinate cases has recently been revived. It seems to me to be justifiable as a last resort in intractable cases, although one must not overlook the fact that complete obliteration precludes the possibility of natural drainage, which sometimes comes about in seemingly incurable cases when the inflammatory trouble has subsided. Preliminary to operations on the globe in lachrymal cases, obliteration is, of course, justifiable and obligatory.

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A FEW POINTS ON APPENDICITIS.

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Probably no other disease has brought forth such an array of literature as has been published within the past ten years on appendicitis. All classes of practitioners took a hand, and the result is an indescribable melange, which we are slowly untangling, but we are beginning to get order out of chaos. The medical man is slowly recognizing that appendicitis is a surgical disease, and no longer delays calling in the surgeon until the patient is beyond hope. Surgeons who a few years ago advocated waiting so many days in most cases are now advising operation as soon as the diagnosis is made.

The question of diagnosis is the key to the peculiar statistics which we sometimes see published by men who claim to cure all their cases without operation. All belly-aches are appendicitis; and when a patient dies from a neglected case of the true disease it is laid to the door of inflammation of the bowels, obstruction of the bowels, or idiopathic peritonitis. While we are all liable to err in our diagnoses, it is better to err on the safe side, and remove an appendix which is not diseased than to leave one in which is going to cause the death of its owner.

As our experience increases we are able to eliminate practically all the conditions which simulate appendicitis, but that is as far as we can go. It is absolutely impossible to differentiate the varieties of this disease by the symptoms present; we can occasionally, under favorable conditions, palpate the appendix with sufficient thoroughness to say positively whether it is distended or contains a calculus; but as a rule either the tenderness is too great or the abdominal wall too thick to determine with any degree of accuracy the condition of the appendix.

What then have we to rely on to make our diagnosis, and how shall we do it? The first and one of the most important diagnostic features, is the suddenness of the attack; the pain coming on with little warning and increasing rapidly, in a person otherwise apparently healthy. The locality of the pain is not diagnostic; it may be, and usually is, near the umbilicus, or it may be in the epigastrium. The next point is the nausea or vomiting; we find either one or the other present in about 90 per cent. of all cases. Constipation is the rule. Localized tenderness is found within the first few hours in practically all cases, and in 90 per cent. it is at or near McBurney's point. The diagnostic tripod consists therefore of sudden pain in the abdomen, nausea or vomiting, and localized tenderness.

The majority of mistakes are made by failing to obtain an exact history of the first few hours of the attack. If the physician is not called in until twenty-four or more hours have elapsed after the onset of the disease, and relies for a diagnosis on the symptoms which are found at that time, he will often be led astray, because it often happens that the pain and tenderness have either subsided or disappeared, and the condition does not look serious. This is very deceptive, as we often find in these cases that either perforation or gangrene has taken place, and nothing but an immediate operation will save life.

We meet with a number of cases in people otherwise healthy, in which deep pressure over the appendix causes pain, indicating either a slight catarrhal condition or the existence of adhesions. The patients will have occasional attacks of increased pain and tenderness, especially if they become constipated. Operation is indicated if the pain and tenderness are sufficient to prevent the individual from working, or prevent him from enjoying life comfortably. We can differentiate these cases from most of the other varieties by the fact that we do not find the exacerbations coming on suddenly, but rather a progressive increase of pain beginning indefinitely.

One very important consideration is the fact that the temperature and pulse at the beginning of an attack must not be taken into consideration in determining the question of operation. I mention this because several have stated that they depended to a certain extent on the temperature and pulse in guiding them. The fallacy of this is shown by the following cases:

Case 1.—W. B.; history of probable attack six months previously. He was awakened one morning at 3 a. m. with severe pain in abdomen, and vomited. I saw the patient an hour later and found extreme tenderness over McBurney's point, temperature and pulse normal. Operation ten hours later; appendix four inches long, with distal three inches filled with pus and becoming gangrenous; a complete obstruction prevented the pus from getting into the cecum.

Case 2.—H. B., had attack eight and a half years previously with formation of subphrenic abscess. Sudden pain at 4 p. m. with slight nausea, no increase in pulse or temperature. Pain and tenderness increasing; patient was operated on at 8 p. m. Appendix distended and contained five appendoliths; the tip was imbedded for three-fourth of an inch in tough cicatricial tissue, the result of the previous attack.

Case 3.—Patient came to office forty-eight hours after the first pain; had had nausea and vomiting and felt very sick. When I saw him the pulse and temperature were normal and the tenderness was not very great; but I was able to find some thickening at the site of the appendix, and advised operation. Next day the patient stated that he was entirely free from pain and tenderness and felt all right, but I still advised operation on account of the initial symptoms and the fact that I could feel something hard at the site of the appendix. Operated seventy-two hours after the beginning of the attack, and found the appendix extremely large and containing a very large appendolith. The mucosa and submucosa were sloughed at the point of the junction of the appendix and cecum, leaving nothing but the peritoneum to hold the appendix in place.

These cases show clearly that we can not in any case determine the pathology by the physical signs, or the subjective symptoms; for we find the most desperate pathologic conditions with the mildest symptoms, and vice versa; the classical symptoms well marked with but slight pathology. This can be easily understood, when we consider the cause of the various manifestations. Pain is produced by pressure on the sensory nerves, and therefore a congestion will produce more pain than a complete gangrene, and the bursting of an appendix will relieve the pain that was caused by its distension. The moment the pressure ceases, or the nerves are destroyed the pain and tenderness disappear.

The nausea is reflex and may be marked in the mildest and almost absent in the worst case. The rise of temperature and increased pulse-rate depend on the absorption of ptomains by the system, and it is possible to have a complete gangrene of the appendix without having sufficient poison absorbed to cause a rise of temperature; again we may have a slight erosion of the mucosa allowing a free absorption of the products of decomposition of the bowel, running the temperature up as high as 104 F. The pulse varies with the nervous system of the individual and therefore can not be taken as a guide in determining the question of operation.

We are left, therefore, without any reliable means of determining the condition of the appendix in any given case without opening the abdomen, and we consider that the mortality after operations which have been performed within the first forty-eight hours is practically nil. We are certainly justified in advising immediate operation in all cases in which the classical signs were manifested within the first few hours.

Much depends on the method of operating. Except when pus is undoubtedly present, our primary incision should be small, just sufficient to admit one or two fingers, and the conditions ascertained by careful exploration. If recent adhesions are found, the incision had better be enlarged sufficiently to be able to see every step of the operation, as these cases are the ones in which the operation may prove dangerous in inexperienced hands. From a comparatively trivial operation, which is necessary in perfectly clean cases, we come to an operation which taxes the skill of the most expert abdominal surgeon, and which may require the resection of a portion of the bowel.

My conclusions are as follows:

1. That over 90 per cent. of cases of true appendicitis which are not operated on have recurrences.
2. That we should operate on all cases of chronic recurrent appendicitis, if possible between attacks.
3. That in practically all cases which die after operation we find at least forty-eight hours between the onset of the attack and the time of operation, therefore it is reasonable to assume that if these cases had been operated upon inside of the forty-eight hours the patients would have been cured.
4. That as soon as a diagnosis of acute appendicitis is made, operate immediately.
5. Pulse and temperature are not to be taken into consideration in making a diagnosis of appendicitis.
6. In acute cases the diagnosis must be based on the symptoms which were manifested during the first three or four hours.

803 Sutter Street.

Tearing Down Untimely Board of Health Placard.—In the case of the City of Memphis vs. Smythe, which was commenced by the issuance of a warrant for the arrest of the defendant for a violation of a health ordinance, the Supreme Court of Tennessee holds, to begin with, that a warrant for a fine or penalty imposed for a violation of a town ordinance is civil in character, being in the nature of an action of debt, and that consequently an appeal, after a finding of not guilty, will not be dismissed on the ground that the defendant has been once in jeopardy. The defendant in this case was a physician. The ordinance which he was charged with violating provided, under penalty by fine, that every physician should immediately report any person he might attend within the city limits sick with, or who he had reason to suspect had, diphtheria; that thereupon it should be the duty of the health officer to placard the house, with a card designating the character of the disease, and that such card should not be removed by any other than a health officer or sanitary policeman. The record in the case disclosed that, one Tuesday night, at the defendant's residence, his child was taken ill with what the defendant feared was diphtheria. The next morning he called in another physician, who, upon examination was unable to discover any symptoms of this disease, and so told the family. But notwithstanding this assurance, the defendant, still suspicious or apprehensive, after the departure of that other physician, made a telephone report to the city board of health that the child was sick with what he feared was diphtheria, adding that the other physician, who was attending the patient, did not so regard it. That (Wednesday) afternoon, that other physician called again, and repeated what he said before. Thursday afternoon, he made his last visit, when, finding the child well, or practically so, he dismissed the case. The board took no action until Friday morning, when one of its employes telephoned to the defendant that a report of the case of diphtheria at his house was required. To this the defendant replied that there was not, nor had there been, a case of that disease at his home; that his infant child had been sick, but was then entirely well. Thereafter, by order of the board, the house was placarded for diphtheria, upon discovering which the defendant tore down the placard. Then followed this action. The ordinance itself, the supreme court characterizes as a salutary one, the strict enforcement of which was essential to prevent the spread of contagious diseases. But, on the facts stated, it holds that the action of the defendant was warranted, and that he had not violated the ordinance. It says that if, on the receipt of his report on Wednesday morning, the sanitary authorities had acted by placarding the house, the ordinance would have applied. But, waiting as they did until it had been ascertained that it was not such a disease as the defendant had suspected, and the child was entirely recovered, their action, it holds, came too late. And this being so, there was no reason, the court [illegible] defendant [illegible]ould permit the placard to [illegible] se, as [illegible] if not necessary, effect [illegible] ls alike against entry [illegible]

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DIFFERENTIATION IN DIABETES.

There are few diseases that have been more thoroughly studied than diabetes, and, while there has been a gradual and progressive expansion of our knowledge on this subject, the condition is still surrounded with not a little obscurity and the exact mechanism of its occurrence is not yet understood. That it is a morbid perversion of metabolism is generally agreed, as it is also that the most powerful therapeutic influence is dietetic; but we can not for the present go further than the statement that the disorder represents a defect in carbohydrate-assimilation. In a recent thoughtful paper, F. W. Pavy,[1] who has made important contributions to our knowledge on this subject, discusses some phases of differentiation in diabetes. To cases in which the sugar eliminated with the urine is derived solely from the food, he applies the designation alimentary diabetes. The carbohydrate matter of the food fails to be dealt with in the system in such a way as to be placed in a proper position for utilization, so that it appears in the blood as sugar and is thence discharged as waste material with the urine. Under normal circumstances, neither the urine nor the blood is sensibly influenced by the carbohydrate elements of the food, although the blood, like other tissues, uniformly contains a small amount of sugar.

Alimentary diabetes is attended purely and simply with the abnormal presence of dextrose in the urine, and this secretion further does not yield a color-reaction with ferric chlorid. Under other circumstances dextrose may appear in the urine, as a result not alone of defective carbohydrate assimilation, but also of abnormal proteid disintegration. In consequence of faulty metabolism, tissue-disintegration takes place, with the production of sugar, in association with other abnormal degradation products. For this latter condition Pavy proposes the designation composite diabetes. As a result of the faulty metabolism a series of products not normal to the urine appears in it, namely, beta-oxybutyric acid, diacetic acid and acetone, and the amount of these may be looked on as furnishing a measure of the extent of abnormal proteid destruction. Oxybutyric acid is, under these circumstances, found only in association with diacetic acid and acetone; and diacetic acid only in association with acetone. The beta-oxybutyric acid deflects the ray of polarized light to the left, so that the effect of its presence is to neutralize, in proportion to its amount, the deflection to the right due to dextrose. The difference between the quantitative results obtained by reduction with cupric oxid and those yielded by the polarimeter will therefore indicate the extent to which abnormal proteid disintegration is taking place. If the dextrose be fermented away by means of yeast, the levorotatory deflection noticed in the polarimeter will give the same information. The presence of diacetic acid will be indicated by the appearance of a wine-red color on addition of ferric chlorid to the urine.

The essential condition of alimentary diabetes consists in a faulty power connected with the application of the carbohydrates of the food within the system. Normally these are so utilized that no evidence of their ingestion is found in the blood or in the urine. In the presence of diabetes, however, the carbohydrates are not properly assimilated and find their way into the blood and the urine in the form of sugar. The power of assimilating carbohydrates is limited even in health, and the ingestion of an amount beyond that will be followed by glycosuria, so that the diet must be adjusted accordingly. The characteristics of alimentary diabetes consist in the control of the glycosuria by the exclusion of carbohydrates from the food and the absence of beta-oxybutyric acid and diacetic acid from the urine. To ascertain the degree of severity the assimilative power must be estimated by determining the largest amount of carbohydrates that can be taken without inducing glycosuria. Under favorable conditions it will be found that gradually increasing amounts of carbohydrate will be tolerated, and this will be indicated by continued absence of sugar from the urine, and also by loss in weight; and increase in the amount of carbohydrates to a point yet within the assimilative capacity of the organism will now neutralize the loss of weight. Alimentary diabetes is unattended with any liability to the supervention of the fatal coma that occurs in cases of composite diabetes as a result of the activity of toxic products resulting from tissue-disintegration. The intensity of the symptoms is proportionate to the amount of sugar in the system, as indicated by the quantity appearing in the urine. This will be shown by amelioration and gradual disappearance of the symptoms with the subsidence of the glycosuria when the carbohydrates are diminished or withdrawn.

The case acquires a serious aspect when the alimentary is converted into composite glycosuria. This takes place more readily in early than in late life, and in neurotic individuals, and as the result of hereditary tendencies. Under the morbid influence in operation the tissues melt down into the unexhausted products that escape as waste matter with the urine. The degree of emaciation may become extreme. The coma by which life often is terminated is the result of a true autointoxication. The nature of the intoxicant has not yet been determined with certainty, although it has been thought to be beta-amido-butyric acid.

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[1] Lancet, June 16, 23 and 30, 1900.

PRIMARY ENDOTHELIAL HYPERPLASIA OF THE SPLEEN—A DEFINITE AND DISTINCT DISEASE.

Many of the diseases of the spleen and of the lymph-glands are exceedingly obscure in their nature. There are leukemia and pseudoleukemia, whose clinical picture and anatomical changes are familiar enough, but of the real nature of these processes we are wholly in the dark. The recent report by Crowder[1] of a peculiar form of chronic hyperplastic glandular tuberculosis simulating pseudoleukemia to perfection, indicates that chronic glandular hyperplasias of a pseudoleukemic type may be of a tubercular character perhaps oftener than now expected. The conditions that determine the peculiarities of this form of glandular tuberculosis, whether connected with the bacillus or with the soil, baffle all explanation at this time. The affection variously described as splenic anemia, Banti's disease or splenic pseudoleukemia is characterized by considerable enlargement of the spleen, the changes being essentially of a chronic interstitial character. That this disease is intimately connected with splenic lesions would seem to be demonstrated by the cures reported by Italian physicians to follow splenectomy; but of the essential nature and the cause of the malady nothing is known.

And now comes Bovaird[2] with the description of two remarkable instances in children of a primary enlargement of the spleen dependent on an extensive endothelial hyperplasia, judging from the histologic study of the spleen in the fatal case. The patients were sisters, the first signs of the disease appearing at the ages of 2 and 3 years, the latter dying at 13 from splenectomy. Bovaird sums up the symptomatology as follows, based on his own cases and on the reports of similar cases—mostly females—by Gaucher, Collier and others: Slow and progressive enlargement of the spleen, beginning in childhood—2d to 7th year—with a secondary enlargement of the liver and simple anemia. Softening of the gums, with oozing of the blood, epistaxis, cutaneous hemorrhages and icterus have been observed, the first being quite constant. The mechanical effects of the splenic enlargement may be the cause of pain, gastro-intestinal disturbances, dyspnea, dysuria and cramps in the legs. In Bovaird's fatal case the spleen weighed 12½ pounds, the total weight of the child being 75 pounds. The form of the spleen in general was that of the normal organ.

The clinical differentiation of cases of the type described by Bovaird from splenic anemia—Banti's disease—seems at present impossible, but the anatomic lesions of the two diseases differ. As already indicated, the splenomegaly of Gaucher and Bovaird is dependent on a marked endothelial hyperplasia which may be associated with like changes in the retroperitoneal and mesenteric lymph-nodes and the connective tissue of the liver. These alterations are well illustrated in Bovaird's drawings. On the cut surface the spleen and certain parts of the liver showed numerous firm white or yellowish-white areas corresponding to large irregular spaces filled with large cells. The areas in the liver are regarded as developing from the endothelium of the lymph-spaces and not as metastases. Iron pigment was present in large quantities in the lymph nodes and the liver. Bovaird's view that the process is not an endothelioma—Gaucher speaks of his case as an epithelioma—is supported by such authorities as Cornil and Birch-Hirschfeld. The nature of the affection—the entity of which seems established—is beyond our present ken. As yet bacteriologic studies do not seem to have been made. They are indicated whatever the results therefrom might be. The reports of cases like these are inducive to careful study of that enigmatic organ, the spleen.

CHANGES IN THE MOTOR GANGLION-CELLS ASSOCIATED WITH PERIPHERAL NEURITIS.

Whether or not the conception of the neuron as applied to the nervous system can be accepted without qualification in its present form, there is no doubt that it has been a great help in clarifying our physiologic and pathologic notions in this field of observation. Viewing the nerve-cell and its processes as one continuous whole, it can be readily understood how a lesion in any part of it will give rise to similar clinical manifestations. Further, as the nutrition of the cell is dependent on the integrity of the body, through its nucleus, it must be evident that the most remote part will be the most susceptible to degenerative changes. Disease of the cell will necessarily be followed by disease in its processes, but it has not been sufficiently appreciated that disease in the latter may be attended with changes in the former. It has been observed that sometimes perfect recovery takes place, while at other times cells undergo atrophy and disappear.

Evidence in confirmation of this latter fact is afforded by the results of a microscopic study lately made by Hunter[1] of the motor ganglion-cells, in addition to the peripheral nerves, in five cases of peripheral neuritis, four of alcoholic origin. It was found in three of the cases that, although there was but slight loss of power in some of the muscles, there was marked inflammation of the corresponding nerve. This disparity may be explained on the supposition that changes in structure precede alteration in function. In three of the cases also the motor ganglion-cells exhibited chromatolytic changes corresponding more or less closely to those found in animals following injury to peripheral nerves. In [illegible] case the appearances, while presenting a [illegible] the normal, could not be decided to be [illegible]tive or regenerative. The changes [illegible] situated about the nucleus, while [illegible] periphery itself seemed [illegible]

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1. New York Med. Jour., Sept. 15, 1900.
2. Am. Jour. of Med. Science, October, 1900.

1. Lancet, Aug. 25.

In all the medial group of cells in the anterior horns were practically unaltered. In the dorsal region, where the lateral cells were fused with the medial groups, the former were quite normal, but in the cervical and lumbar enlargements the degenerative changes were most marked in the postero-lateral subgroup. In two cases the number of ganglion-cells appeared diminished. A deposition of yellow pigment was found to some extent in nearly all of the ganglion-cells, as well in those that appeared to be healthy as in those undergoing chromatolytic change, completely filling some and occupying half of the cell-plasma in the majority. This pigmentation takes place at the expense of the Nissl bodies, causing fragmentation of the chromatic granules. It is thus a variety of chromatolysis, and if the chromatin-granules represent the functional potentiality of the cell, either in form of nutrition or as energy, or both, the destruction of the granules must be looked on as a degenerative change. This is attended with a corresponding alteration in the vessels, in the walls of the smaller of which colloid degeneration was found throughout the nervous system in all of the five cases examined.

As a result of the foregoing observations, it may be concluded that the presence in the blood of toxic substances capable of exerting a deleterious influence on the peripheral nerves affects not alone the neuraxon, but all parts of the neuron.

MEDICAL INSPECTION OF SCHOOLS.

Last January the medical inspection of school children was put in operation by the school board of Chicago. While it proved satisfactory, certain politicians conceived the idea that the few thousand dollars annually expended in this direction could be used for a better purpose—better for the politician. Accordingly, a feeling was created against the employment of physicians as inspectors, and for a time it seemed as if the efforts of these would-be economists would succeed. But recently most definite results have been seen, and several instances have occurred wherein timely discovery of contagious disease in the schools and quick isolation prevented an epidemic. Most of the newspapers have favored the work from the first and have defended the medical inspectors in the efforts to prevent epidemics among the school children. The Chicago *Times-Herald* of October 22 editorially says:

> The record of the work accomplished by the medical inspectors in preventing the spread of contagious diseases in the Chicago public schools should have greater weight in determining the action of the board with reference to continuance of the system than any arguments that may be advanced along the line of retrenchment or economy. The value of the work to the whole community should also overweigh any objections from parents who may have suffered some personal inconvenience from the inspection. A statement of the work accomplished by the medical inspectors shows that during three and a half months of the last school year 76,000 examinations were made and 4539 cases of contagious disease were discovered and excluded from the schools. Since September 17 of the present year 7249 examinations have been made and 510 contagious cases have been excluded. The argument of economy can not have much force against such a showing of preventive efficiency as this. If the medical inspection system has kept the schools from spreading epidemics it is worth many hundred times the cost of its maintenance. Indeed it would be difficult to calculate the money value of such a service. The fact is the medical inspection system should not be disturbed under any pretext whatever. Its cost is trifling compared to the benefits that accrue to the community through the inspection. It would be a very short-sighted policy to cut off this safeguard against epidemics in the schools on the score of economy, while large sums are being expended for the non-essentials of a common school education. Medical inspection in the public schools of a city of this size is absolutely essential as a measure of public safety.

There can be no doubt whatever that, as at present managed, the close intelligent watching of the physical condition of children in the crowded school-buildings of a large city will be a power in preventing epidemics. It is shutting the door before, not after, the horse has escaped; the ounce of prevention rather than the pound of cure.

PHYSICIANS NOT LIABLE WHEN THEY ACT IN GOOD FAITH.

The Supreme Court of Massachusetts, in full bench, has given out a decision that is of interest to medical men. It holds that physicians under the Massachusetts statutes are not liable for negligence in erroneously certifying a person insane or inebriate, provided they do so in good faith and without malice. Even if their examination was a careless one their action was not the proximate cause of the commitment, as a judge must, under the statutes, determine that; and, secondly, they should, in accordance with public policy, be like other witnesses, considered privileged and protected against liability as long as they act in good faith and without malice. The opinion was a majority one, but, while not unanimous, it is sufficient to protect Massachusetts physicians from vindictive damage-suits and may be a valuable legal precedent elsewhere.

PHYSICIANS AND THE HALL OF FAME.

In our last issue, notice was taken of the omission of any medical names in the list of those selected for the so-called Hall of Fame. As there are but two medical men on the jury of award, it is quite possible our profession, commanding thus only 2 per cent. of votes, will scarcely have a fair show even in a future election. It has been suggested that an expression of the general consensus of opinion of the medical profession might have some influence, and it appears to be a good one. If for example the AMERICAN MEDICAL ASSOCIATION would pass a resolution naming certain ones, in its opinion, worthy of the honor, its action might have weight, even with the laymen on the jury. The suggestion is a practical one and worthy of consideration. It would be no honor to the Hall of Fame if worthy members of a profession which has done much for humanity, were willfully or even ignorantly omitted from its rolls.

JUDICIAL ARROGANCE AND IGNORANCE.

The judge, in a recent noted trial in which the accused was reported ill, is said to have given out, among other remarkable utterances, the following: "I could tell nothing by going to see the defendant as to his condition, but I do not want his physician or any other physician to fill him full of opiates and keep him in that condition, and that is a matter which must be looked after." This is an expression of opinion after an admission of ignorance, and a very injudicial slur as to the integrity of members of our profession. One thing is certain, no honorable and self-respecting physician would let a judge dictate to him in matters altogether out of the judicial sphere; prescriptions and treatment of the sick are not within the jurisdiction of the court. "In the sick room," as the Louisville *Post* remarks, "the physician is supreme," and if not he should be, judges to the contrary notwithstanding. Even a man accused of crime has rights as a patient and a human being beyond the jurisdiction of the court.

DR. JOHN CONTEE FAIRFAX.

In a recent issue we gave a three-line notice of the death of a member of the medical profession whose decease has been made the subject of half-column editorial notices in our two leading British contemporaries. Dr. John Contée Fairfax was in this country simply an American citizen, than which there is no higher rank; though not a British subject, in Great Britain he was officially recognized as sharing alone with Lord Lister the honor of membership both in the medical profession and the British peerage. This fact is noteworthy, as well as that of his descent from the parliamentary General Fairfax of that epoch of English history most familiarly known to us as "Cromwell's times," and from the Lord Fairfax who was Washington's friend and early patron. Dr. Fairfax appears to have been a very estimable gentleman, and while more of a landed proprietor than an active medical practitioner, the only title he cared to go by was that of Doctor, acquired as a graduate of the University of Pennsylvania. It is worth noting also in this connection that the history of the Fairfax family is said to be the foundation on which Thackeray built his celebrated novel of "The Virginians."

OBJECTIONABLE DRUGGISTS' CIRCULARS ABROAD.

The *British Medical Journal* states that English practitioners are seriously annoyed by objectionable pamphlets mailed to them by American drug firms, and that in the case of one particularly disgusting instance the postal authorities of the two countries have been called on to intervene. It very properly requests, however, that any of its readers sending these objectionable pamphlets with their complaints should do so in the original wrappers, as it has a suspicion that some of the pamphlets are really posted in London. It is not pleasant to hear that American druggists send disreputable literature abroad, and we trust that what they send is bad only in a medico-ethical point of view. The American postal laws are rigid as to the transmission of immoral publications through the mail; it would be a simple matter to call the attention of the authorities to any such emanating from this side of the Atlantic and would speedily put an end to their circulation. It will possibly be found that the majority of such received in Great Britain also originated there; the fact that they contained testimonials from persons holding British qualifications suggests that this probably is the case. We have British-labeled frauds in this country; it is quite likely they have their counterparts there.

AN UNAPPRECIATED JOKE.

Some time ago a Denver daily paper made some comments on what was either an abnormal temporary condition or a gross error of statistics in regard to masculine mortality in the state of Colorado. The Journal editorially noticed them, in what was intended as a semi-facetious way, remarking on the possibility of the Centennial state becoming in the future an "Adamless Eden" and suggesting as the only possible explanation the contiguity of Utah with its polygamous traditions of the past. It scarcely seemed probable at the time that the tone of the article would permit of its being taken seriously, but such seems to be the case. It has traveled over two continents, and though slightly disfigured is still in the ring. The Journal has in this repeated the experience of Mark Twain, who found that he could not in the most innocent and transparent way play hob with the probabilities and possibilities without some one accepting it all as gospel truth. The safest course is in all such cases to follow the example of another noted humorist, who early recognized this weakness of human intelligence and often ended his lucubrations with the commentary: "This is a goak." For the benefit of all such literally-minded individuals The Journal here expresses its opinion that there is no immediate danger of Colorado losing its male population, or reverting to conditions where, as an English contemporary naively remarks, "social conventions may have to be modified." It will endeavor to be more careful in the future, and, if necessary, will label its jokes.

NEW POINTS ON COLOR-BLINDNESS.

It has usually been held that all except about 3 or 4 per cent. of mankind possess normal color perception, that is, that they agree in seeing colors alike in the way we consider them to normally exist. It has been admitted that very slight variations might exist beyond these limits, but that they are too insignificant to require consideration. Unlike other peculiarities of vision, color-vision is esteemed as practically uniform in the mass of mankind. According to recent studies by Prof. Ogden H. Rood, whose former work on colors is well known, there is really no such uniformity, and individuals vary as much in this as they do in the other niceties of visual perception. From an editorial abstract of his work in the *Post-Graduate* for October, we learn that with the use of the Flicker photometer, a new instrument for measuring color-perception, Rood finds that no two agree in this respect, and that the variations are quite striking even in persons ordinarily considered as normal in their color-vision. Taking the average of eleven individuals selected for the experiments as the normal figure and reckoning it as 100, he found only three of them whose perception reached the average standard for red, three for violet-blue and five for green, and that the defects varied for these respective colors from 1 to nearly 20 per cent. The females varied from the standard as much as the males as regards green perception, though exceeding them as regards the other two colors. The number of cases examined in this study is small, but they were carefully selected and observed, and justify the claim of Professor Rood that no man or woman is thoroughly qualified to do color work until his or her color-vision has been tested, and apparently this will have to be done by such an apparatus as the Flicker photometer, with which he detected these variations. The question of color-blindness is one that calls for considerable study even yet, not merely for its scientific interest, but also on account of the practical points involved. Professor Rood's results will suggest some further investigation of the problems of color defect, with special reference to railway and steamship service, and may possibly lead to more perfect and satisfactory methods and standards than those now in use.

Medical News.

CALIFORNIA.

Sacramento reports a death-rate for September of 16 per 1000 per annum.

Los Angeles reports 117 deaths during September, 25 of which were due to tuberculosis.

Dr. Asa Clark has been reappointed medical superintendent of the State Hospital for the Insane at Stockton.

Dr. Samuel O. L. Potter has resigned from the board of trustees and from the chair of theory and practice of medicine and clinical medicine in the College of Physicians and Surgeons of San Francisco.

The Merritt Hospital, Oakland, will now be built. The Supreme Court of the United States has sustained the decision of the lower court and the $500,000 devised by Mrs. Catherine M. Garcelon for this purpose is thus made available.

The Student Guild of Stanford University has funds in hand and will build a hospital for the use of students of the institution. The authorities of the university will provide for the maintenance of the hospital.

DISTRICT OF COLUMBIA.

The commissioners of the District have appointed a commission, of which Health Officer Woodward is a member, to consider all proposals for the sale of land for the proposed municipal hospital.

Major John Van R. Hoff, who was recently ordered to China as chief medical officer of the United States forces there, has been relieved from duty and ordered to San Francisco.

The Freedmen's Hospital, during the fiscal year, treated 8744 patients in the wards and dispensary. The percentage of mortality was 6.37. During the year 634 operations were performed, with a death-rate of 1.1 per cent.

The board of medical examiners of the District reports that during the year ended June 30, 1900, 95 applications for license to practice were received. Of these, 22.92 per cent. failed. Licenses for midwives were applied for in nine cases and a certificate issued in each case. It asks for a suitable compensation for its members, stating that the average amount received by members of the board has been only $22.84 for the regulars, $1.76 for the homeopaths and nothing for the eclectics.

ILLINOIS.

The Springfield Board of Health has decided to ask the city council to allow an appropriation sufficient for the erection of an isolation hospital, for which there is urgent need in the city.

ORGANIZATION IN ILLINOIS.

The committee on medical legislation appointed by the Illinois State Medical Society has issued a circular-letter, from which we quote a part: From our correspondence with similar committees in other states and from action taken at the last meeting of the American Medical Association, we believe that there is a general awakening of the profession to the necessity for more active and harmonious work. The New York State Medical Association has been recently entirely reorganized on what is known as the Connecticut plan. This plan, in brief, makes membership in the local society include membership in the state society. The fees are all paid to the local society, thus the local society is made the basis of the whole organization of the state. We believe this to be the correct principle of organization. Your committee is thoroughly convinced that if Illinois is to maintain its place in the first rank we must immediately improve our medical organization. Instead of having a state society which only embraces a part of the local societies of the state and only a few hundred of the many thousand regular practitioners, we must effect an organization which will practically embrace all our regular practitioners. We are now addressing every member of the state society on this point and asking them for suggestions and assistance in changing the present conditions. Why is it that the majority of the regular practitioners in the state have not allied themselves with the state society? The committee sees plainly that they will be unable to secure or maintain the most desirable legislative measures without a more complete organization behind them. Among the questions which are demanding solution in our state we would suggest the following: A thorough organization of city, county and state boards of health with proper relations to each other; more adequate sanitary laws, especially those relating to schools, manufactories and quarantine; to secure legislation to protect against tuberculosis and other preventable diseases; to protect against vicious legislation, for example, antivivisection and antivaccination; to protect from blackmailing, and to protect against unjust malpractice suits; to secure proper recognition of expert testimony; to protect the sick from quacks and charlatans; to protect and improve the medical-practice act and to secure a special board of medical examiners, aside from the board of health; to secure proper regulations for the protection of drinking-waters, and in fact to aid in securing just and impartial legislation whenever and wherever needed; to secure equitable medical laws throughout the United States, with some practical form of reciprocity between states; to secure the appointment of reputable and honorable medical men wherever public services of physicians are required throughout the state. These and many other questions are demanding the attention of the profession. We should be thoroughly alive to their importance and realize that the only way to secure any needed enactments or suitable appointments is through harmonious organization of our profession. We must all be willing to submit to the will of the majority. We have all, no doubt, been chagrined to hear members of the legislature say that the only thing which stands in the way of securing desirable medical legislation is lack of harmony in the profession. We should remove the cause for this now just criticism. . . . We are directed by the state society to organize the profession along these lines, and hope to have your assistance in getting in touch with the public-spirited physicians of your locality. The profession must be organized to protect the interests of the sick as well as its own interests.

Chicago.

Dr. S. C. Plummer returned, October 23, from his summer in Europe.

The medical inspectors, on October 22, closed four rooms at the D. S. Wentworth School on account of diphtheria discovered among the scholars, and one room at the McCosh School on account of scarlet-fever.

The Illinois Home for Epileptics has moved to its permanent location, 3240 Lake Park avenue. The home is a charitable institution and is open at all times for the reception of emergency cases.

Dr. M. N. Regent, now awaiting sentence for conspiracy to defraud, was refused a new trial by Judge Brentano, October 17.

An epidemic of matrimony is raging among Chicago physicians. Dr. A. N. J. Dolan was married to Miss Georgiana Sexton, on October 10; Dr. Charles Heller to Miss Rosie Greenhoot, October 16; Dr. Charles F. Weir to Miss Eleanor Reeves, October 18, and Dr. Louis A. Mueller to Miss Louise Wilke, October 19.

The Senn Memorial Room at St. Joseph's Hospital, which has been completely furnished by Dr. Nicholas Senn, and in addition endowed for $10,000, was formally opened October 16. During the life of the donor he will have the privilege of designating patients to occupy the room.

The banquet to be given in honor of Dr. Christian Fenger on Nov. 3, at the Auditorium Hotel, promises to be an interesting affair. Dr. C. A. L. Reed, president of the American Medical Association, will be toastmaster; Dr. W. W. Keen, Philadelphia, will make the speech, presenting the loving cup. Speeches are expected from Dr. Charles A. Wheaton, St. Paul; Dr. Charles B. Nancrede, Ann Arbor; Dr. E. S. Rickets, Cincinnati; Dr. W. H. Earles, Milwaukee; Drs. Nicholas Senn and William E. Quine, Chicago, and others. As the attendance from Milwaukee, St. Paul, Minneapolis and other nearby cities is expected to be large, the committee would like to know as nearly as possible the number that may be present. Dr. W. A. Evans, Chicago, is Chairman.

HEALTH DEPARTMENT.

Only 385 deaths were recorded in the bureau of vital statistics during the week ended October 20. *This total furnishes an* annual death-rate of 11.81 per 1000 of the United States census figures of population, 1,698,575—the lowest October weekly mortality-rate ever recorded in Chicago, and with one exception the lowest mortality of any week of 1900. As compared with the previous week, only deaths from pneumonia show an increase; deaths from convulsions and from violence were stationary; while deaths from the impure-water diseases, including typhoid fever, from bronchitis, heart disease, nervous diseases, cancer, diphtheria and scarlet fever show the greatest numerical reduction in the order given. During the first twenty days of the month *the daily deaths averaged 58*—a figure which, if maintained during the remainder of the month, would make the total October mortality only 1793, and an annual rate of less than twelve and one-half per 1000. During the twenty-five school days since September 7 the inspectors have examined 9770 ailing children in the public schools, and 694 of these were found to be suffering from diseases liable to spread to other pupils with whom they were in contact. Among these were 16 cases of diphtheria, 17 of scarlet fever, 17 of measles, 30 of whooping-cough, 36 of chicken-pox, 126 of tonsillitis, 13 of purulent sore eyes, 123 of impetigo contagiosa, 145 of *pediculosis*, 25 of *ring-worm*, 24 of eczema and 47 of other "catching" diseases. With the lowering temperature of the autumn days—necessitating the closing of doors and windows and consequent exclusion of fresh air—the number of ailing children increases, as will be seen by these figures of examinations and *exclusions:* Week ended September 21, ailing pupils examined, 801, excluded, 97; September 26, examined, 1939, excluded, 112; October 5, examined, 1998, excluded 168; October 19, examined, 2521, excluded, 184. Another and very potent cause of this increase is the association of the children themselves in the too-often badly ventilated class-rooms and assembly-halls of the average schoolhouse. What is known as the "school diffusion" of contagious diseases, especially diphtheria, scarlet fever, measles and whooping-cough, is now well understood and it is this that makes school inspection of so much importance and utility in the prevention of the spread of the communicable diseases of childhood. The total deaths from all causes were 385; for the corresponding week of 1899, 495. Of males, 196, and of females, 179, died. Under 1 year, 78 died; between 1 and 5 years, 45, and over 60 years, 74. The principal causes of death were: Consumption, 45; acute intestinal diseases, heart diseases and pneumonia, each 35; nervous diseases, 25; violence, 19; cancer, Bright's disease and diphtheria, each, 16; typhoid fever, 6; scarlet fever, 2, and suicide, 3.

INDIANA.

Dr. Charles H. Eckert, Marion, was thrown from his buggy and severely injured October 5.

Dr. Henry A. Fink, South Bend, had a rib broken and was otherwise badly bruised in a runaway October 8.

Dr. James W. Stewart, Logansport, was married to Miss Mamie Magee at Benton Harbor, Mich., August 16. Dr. and Mrs. Stewart have gone to Europe and expect to remain for a year.

IOWA.

Dr. R. U. Chapman, Des Moines, has returned from a tour of Europe.

Dr. Harry P. Engle and Miss Shirley Mann, both of Newton, were married October 3.

Waterloo business men have organized a hospital association and propose to establish a hospital.

The Sioux City College of Medicine held its opening exercises on October 3. Dr. George Park delivered the opening address.

The *Austin Flint Medical Journal* of Mason City will be edited and published by Dr. F. G. Murphy, Dr. T. T. Blaise retiring from the journal. The space heretofore occupied by translations will be given to original articles from the Iowa profession.

KANSAS.

Dr. A. Hudson Hepler, Fort Scott, was married to Miss Martha Jessie Polsgrove, at Fort Worth, Tex., October 10.

Dr. Russell Phillips, Leavenworth, was married to Miss Theresa Rossington, Topeka, at her home in Topeka, Oct. 10.

KENTUCKY.

Dr. Frank Lapsley, Paris, has returned from a summer tour of Europe.

Dr. Archibald H. Barkley and Miss Roberta F. Johnson, both of Lexington, were married, October 17.

Dr. Redin Kirk has returned to Louisville after service in the medical department of the army in Porto Rico and the Philippines.

The State Board of Health has issued a special illustrated circular with reference to the treatment of smallpox and precautions against it. Vaccination and revaccination is urged. It states that "within the past two and a half years this disease has prevailed more or less extensively in 81 of the 119 counties of Kentucky." "It should also be constantly borne in mind that there are no such diseases as 'elephant itch,' 'African itch,' 'army itch,' or 'Cuban itch,' and that in all of the many instances investigated by our experts, where the disease was ignorantly reported under these and other similar misleading names, they were found to be cases of genuine and unmistakable smallpox."

MARYLAND.

The Board of Medical Examiners of Maryland will hold the semi-annual examinations at the rooms of the Medical and Chirurgical Faculty, November 7, 8, 9 and 10.

The semi-annual meeting of the Medical and Chirurgical Faculty of Maryland will be held at Towson, Baltimore County, in November. One of the most important subjects to be discussed at this meeting is the proposed amalgamation of all the medical societies in Baltimore into one organization dominated by the Faculty.

Baltimore.

The deaths for the week ending October 20 were 182, an annual death-rate of 17.49 per 1000—whites, 15.61, colored, 28.66. Of these, 79 were un[illegible] years of age. Typhoid fever caused 3 deaths, [illegible] culosis 26, [illegible] r 7, pneumonia 8, ch[illegible] 's dis[illegible] births reported were [illegible]; of scarlet [illegible] 8, [illegible] cough, 3.

At the [illegible] Hebrew H[illegible]

were received. Two hundred and sixty-four patients were admitted during the year. A large number of consumptives were treated in the new wing devoted to that disease; and 6043 patients were treated in the dispensary.

MASSACHUSETTS.

Dr. Francis D. Donoghue, Boston, was married on October 15 to Miss Marian Fiske, of Malden.

Dr. Herbert S. Hayford, Quincy, was married to Miss Clara L. Roe, at her home in Whitestone, L. I., October 18.

Dr. Joshua F. Lewis, Malden, has been appointed by the State Board of Charity, superintendent of the adult poor of the state.

The City Hospital is about to erect a relief station in Haymarket Square. This has been made possible by the bequest of the late Thomas T. Wyman, amounting to about $120,000. The building will be three stories high, with basement, and have an area of 120x60 feet.

MICHIGAN.

During September, 68 cases of scarlet fever and 14 cases of typhoid fever were reported in Grand Rapids.

The Union Benevolent Hospital at Grand Rapids reports that during the fiscal year just ended, 504 patients, 253 medical and 251 surgical, were admitted. Operations were performed on 242 patients with 9 deaths.

The State Board of Registration in Medicine completed its first year on October 10. During this time it has examined 6000 applicants, about one-third of whom were rejected. The board recognizes only 37 colleges in America as coming up to the standard required.

The resignation of one house-physician in the Emergency Hospital, Detroit, is said to be due to an unusual curtailment of the authority vested in that office. It is rumored that the other members of the house staff will leave the hospital soon.

The secretary of the State Board of Health believes that life and treasure might be saved the state, were a law enacted placing the determination, from time to time, of the question of what diseases are to be considered communicable, in the hands of a sanitary body which shall be charged with the duty of publishing each year a list of the diseases then known to sanitarians to be dangerous to public health and therefore required by law to be reported and restricted.

MINNESOTA.

Of the forty-five who applied to the State Board of Medical Examiners for examination, on October 11, thirty-two were given licenses to practice.

Quintuplets, all boys, weighing in the aggregate 30 pounds, were born to a woman in Marnis Home, October 12. She has been married only seven years, but had had already 11 children, all of whom came in twos or threes, with one exception.

St. Paul furnished one, and Minneapolis three, of the physicians cited to appear before the State Board of Medical Examiners to show cause why their licenses should not be revoked. All the cases were continued until January, 1901.

MISSOURI.

A banquet was tendered to Dr. I. N. Love, who is leaving St. Louis to settle in New York, on Oct. 15, by his medical friends in St. Louis, at the Southern Hotel, at which a beautiful silver loving-cup, engraved with the names of the donors and a likeness of Dr. Love, was presented to him. The formal presentation was made by Dr. G. Wiley Broome, who, in the name of the medical men of the city, expressed regrets at Dr. Love's departure and wishes for his success in his new venture and his new home. Dr. C. H. Hughes acted as toastmaster, and Dr. Love made a suitable response.

NEW HAMPSHIRE.

Dr. Howard N. Kingsford, Hanover has been appointed director of general athletics at Dartmouth College, and medical director of the college football team.

The jury in the case of O'Toole against Dr. John Ferguson, Manchester, for damages on account of permanent injury alleged to be due to the defendant's negligence and lack of skill. has rendered a verdict for the defendant.

The Woman's Hospital Aid Association, Concord, at its annual meeting, elected the following physicians on its board of officers: Ellen A. Wallace, Manchester, vice-president and consulting physician; Julia Wallace-Russell, Concord, corresponding secretary and physician in charge; Granville P. Coun, Ferdinand A. Stillings and Charles P. Bancroft, Concord, consulting physicians and surgeons; Mary A. Danforth, Manchester, and Marion L. Bugbee, White River Junction, Vt., associate physicians, and Dr. Arthur K. Day, Concord, pathologist.

The next examination for licenses to practice medicine in the state of New Hampshire will be held at the state house, Concord, on Dec. 11 and 12, beginning at 8 a.m. All unlicensed physicians not in practice in the state on and before March 16, 1897, must pass the examinations in order to receive a license to practice legally their profession. All information regarding the examination will be cheerfully given by the Department of Public Instruction, or by the regent of the State Boards of Medical Examiners, State Library, Concord.

NEW JERSEY.

Dr. Howard V. Merrell, Plainfield, was married to Miss Elizabeth Huntington Bridge, of Brooklyn, Oct. 3. Dr. and Mrs. Merrell will reside in Meadville, Pa.

In the suit brought by Peter Jones against Drs. Thomas A. Skillman and Thomas V. Meacham, New Brunswick, for wrongful commitment to Trenton insane asylum, the jury brought in a verdict against Dr. Skillman, awarding the plaintiff $50 damages, but non-suited him in the suit against Dr. Meacham.

The Camden physicians are seconding the board of health's efforts to induce the city council to establish a municipal hospital for contagious diseases. Dr. Paul N. Litchfield has presented a petition signed by fifty-six members of the profession, praying for the establishment of such an institution. Dr. Henry H. Davis, president of the board, inaugurated the movement several months ago and says the city is certainly in need of one.

NEW YORK.

The committee of arrangements for the 1901 meeting of the American Electro-Therapeutic Association, at Buffalo, consists of Drs. Henry R. Hopkins, William W. Potter and Julius Ullman.

The Child's Hospital, Albany, has made the following changes in its visiting staff: Drs. Alvah H. Traver, Charles E. Davis and Arthur W. Elting were made attending surgeons, and Drs. Andrew MacFarlane and Henry L. K. Shaw, attending physicians.

Dr. Simon Baruch, New York City, has been awarded a silver medal at the Paris Exposition for his efforts in behalf of the establishment of public baths.

THE CRAIG COLONY FOR EPILEPTICS.

The Board of Managers of the Craig Colony for Epileptics, at Sonyea, held its seventh annual meeting Oct. 9, and organized for the following year by re-electing Dr. Frederick Peterson, New York, president, and Mr. H. E. Brown, Mt. Morris, secretary. The medical superintendent, Dr. Wm. P. Spratling, reported 612 patients in the Colony on October 1. A gain of 234 was made during the year. The total capacity of the Colony is 840, and it is expected that it will have that number by July 1, 1901. It was decided to ask the legislature for $169,000 for new buildings and other improvements, and for $125,000 for maintenance. The superintendent called attention to the fact that 36 out of 612 of the inmates are suffering from tuberculosis, and recommended that suitable wooden barracks be constructed so that these patients might be isolated. He also called attention to the great necessity for providing better means of transportation on the Colony and advocated the construction of a trolley system, the power for which already exists at the Colony. The per capita cost for maintenance in 1898 was 300; in 1899, 216, and in 1900, $172. A resident pathologist, at $2,500 a year with maintenance, will soon be appointed, for whose use a laboratory has been built and equipped.

OHIO.

Dr. Edward R. Henning, West Liberty, has returned from a two years' tour of Europe.

Dr. Martin Stamm, Fremont, has been appointed chief surgeon of the T., F. & N. Electric Railroad Company.

Dr. W. W. Seeley and family, Cincinnati, sail for Europe in November. They expect to spend the winter in Egypt.

Licenses to practice were granted on October 8 to 12 persons who took the examination of the State Board of Medical Examination and Registration at Columbus.

Two women, one a "cancer doctor," of Cincinnati, the other a specialist in "female diseases," of Sardinia, who had neglected to register, in accordance with the law of the state, were arrested at Blanchester, October 4.

Dr. Harry L. Gilchrist, Cleveland, who has been serving as an acting assistant-surgeon in the army in the Philippines, has passed the examination for admission to the medical department of the army.

The house physician of St. Vincent's Charity Hospital, Cleveland, the Sisters of Charity, Mother Superior and Ignatius F. Horstmann are defendants in a suit for $10,000 damages entered September 29 by a patient who claims that she was burned by hot-water bags while in narcosis after operation.

PENNSYLVANIA.

Mercy Hospital, Wilkesbarre, has elected Drs. Samuel M. Wolfe and Edward C. O. Wagner, members of the surgical staff.

The Lancaster General Hospital, has been offered $5000, provided the institution raises a similar amount.

The quarterly changes in the attending staff of the Johnstown Memorial Hospital are Dr. George W. Wagoner, attending surgeon, vice Dr. Alfred N. Wakefield, term expired, and Dr. William E. Matthews, attending physician, vice Dr. John C. Sheridan, term expired.

Seven cases of typhoid fever are reported from Ambler and more than 200 cases from Bolivar and the surrounding country, attributed to polluted drinking-water.

E. P. Wilbur, formerly president of the Lehigh Valley Railroad, has donated $10,000 to St. Luke's Hospital, of South Bethlehem, the income of which is to be devoted to the support of the children's ward. Samuel Thomas, Catasauqua, will build an operating ward for the hospital to cost $10,000.

The State Quarantine Board has decided to improve the facilities at Marcus Hook, near Philadelphia. Two new detention barracks will be erected for the accommodation of 400 patients. A tug boat for boarding vessels and for a floating disinfectant plant will also be built. It was decided to lift the quarantine restrictions on coast vessels from points north of St. Mary's River, Florida, from November 1 to March 31.

Philadelphia.

The Philadelphia Medical Club gave a reception October 26, in honor of Dr. Maurice H. Richardson, Boston.

The number of deaths which occurred for the week ending October 20 was 366, an increase of 28 over the previous week, and a decrease of 18 over the corresponding period of last year.

The committee recently appointed by President Potter, of Jefferson Medical College, to establish a clinical laboratory in honor of Dr. J. M. Da Costa, met October 13 and appointed a sub-committee to prepare a circular letter to be distributed setting forth the need of such an institution.

The city council committee on Charities and Correction, recommended to the finance committee an appropriation of $130,000 for the erection of new buildings as additions to the Philadelphia Hospital.

TENNESSEE.

The Memphis Hospital Medical College will begin its twenty-first annual session November 1, 1900.

The State Board of Pharmacy met in Nashville, October 17, and instructed its attorney to draw up a bill to be presented to the next legislature providing for the regulation of the selling of cocain in Tennessee. The use of this drug among the lower classes, especially negroes, has increased within the past few months at an alarming rate, and all efforts to prevent the sale of the drug have been unavailing. Nashville, Memphis, Chattanooga and Knoxville have passed ordinances providing that the drug can be purchased only on a physician's certificate, but this fails to meet the requirement. There are thousands of cocain sniffers in the state.

The State Board of Health held its semi-annual session in Nashville, October 15. Secretary Albright submitted a report in regard to the smallpox condition of the state. The report stated that since the last meeting of the board the disease had appeared in thirty-one counties. At the present time, however, the disease exists in a mild form only in six counties. In all these, with the exception of Maury, the regulations of the State Board was being observed. There are in the state at present only about twenty-five cases. In Maury county, it was stated, the board had met with a flat refusal from the county board when called on to assume charge of a case which appeared at Mount Pleasant. The reason assigned was that the county could not afford a repetition of the heavy expense incurred in stamping out the disease last year. After much discussion, a committee was appointed to go to Maury County and see if something could not be devised to prevent the spread of the disease. The general health of the state was reported as good.

CANADA.

The medical and surgical staff of the Victoria Hospital, Halifax, has resigned in a body on account of differences with the superintendent.

ONTARIO BOARD OF HEALTH.

The regular quarterly meeting of the Provincial Board of Health was held in Toronto, last week. Dr. Bryce reported that there had been in the months of June, July and August, 644 deaths, as compared with 507 for the corresponding three months in 1899, an increase of 27 per cent. A remarkable fact in this death-rate was that 264 deaths occurred in July last, or 60 per cent. more than in 1899. Dr. Bryce advises that the cities of the province increase the staff work of their health departments. Medical inspectors for schools, especially in Toronto, was also advised.

APPOINTMENT.

Dr. J. T. Halsey, of Columbia College, New York, will take charge of the Morrice Pharmacologic Laboratory at the McGill University, Montreal. This laboratory has not only been equipped by Mr. Morrice but will be supported by him for five years with annual donations, to enable the University to carry on the work of original research in this department. Dr. Halsey, after graduation, spent a year at St. Luke's Hospital. He then went to Germany, where he has spent the past five years in chemical, physiologic and pharmacologic research work in the laboratories of Frieburg, Strassburg and Marburg.

THE BIOLOGICAL STATION, ST. ANDREWS, N. B.

During the past summer, some splendid work has been accomplished in connection with the Government Marine Biologic Station at St. Andrews. During the season, the station was visited by most of the eminent scientists in Canada, who pursued special lines of research work. Amongst those doing work there were Dr. Joseph Stafford, of Toronto University; Professor Prince, of Ottawa; Dr. McCallum, of Toronto University, and Dr. A. V. Scott, of Trinity; Prof. McBride, Dr. Jackson and Mr. Simpson, of McGill; Prof. Knight and Dr. Fowler, of Queen's, Kingston, and Dr. Mackay, of Halifax. This is the second season of the station's existence, and the building has been so constructed as to lend itself easily to removal. It is likely to be removed to Prince Edward Island, next season.

FOREIGN.

Maragliano and Golgi have been elected senators, and Sanarelli deputy, to the new Italian parliament.

Koch has reached home from fifteen months of study of malaria in New Guinea, Java and adjacent islands. He is of the opinion that mosquitoes are the principal propagators of malaria in the districts he has visited.

The *Lancet* announces the election to parliament of the following medical candidates: Sir B. W. Foster, Sir M. Foster, M. A. McDonnell and F. Rutherford, in England; John Dillon, R. Ambrose, and C. K. D. Tanner, in Ireland; Sir J. Batty Tuke and R. Farquharson, in Scotland. Sir R. B. Finlay, the attorney-general, was [illegible] ctitioner.

Sir Henry W [illegible] physi
Prince of Wales, and [illegible] medi
ities of Great Brita [illegible]
He took the M.D. d [illegible]

professor of medicine in 1858, and accompanied the prince on his visit to America in 1860.

Mr. Frederick Treves, of London, one of the consulting surgeons in the South African war, has written an account of his experiences there, which will shortly appear under the title of "The Tale of a Field Hospital."

Dr. Samson Gemmel has been appointed professor of clinical medicine in the University of Glasgow, in place of Professor McCall Anderson. The latter takes the chair of practice of medicine.

The project of holding an International Congress of Gynecology and Obstetrics in London in 1902 has been abandoned. A large amount of preliminary work had been done, but certain misunderstandings developed, and as a result it was thought best to drop the matter for the present.

Russia is supplementing her stupendous anti-alcohol campaign mentioned in The Journal of September 1, p. 563, by enacting stringent laws against drunkenness. Every person found intoxicated on the streets or in public places is to be placed in jail for three days to two weeks, and on repetition imprisoned for three months. The correspondent of the *Lancet* comments that if this law is enforced, one-tenth of the inhabitants will be housed in jails.

The *Ilustracion* of Madrid states that the officials have declared that the vaccin they have been using for the last two or three thousand vaccinations is defective. It did not take in any case. Persons believing themselves safe have mingled more or less with smallpox patients, and there is much consternation over the carelessness in standardizing the vaccin, which the editor denounces as criminal.

The French courts have always upheld the principle of professional secrecy to the extreme letter of the law and consequently much surprise is expressed at a recent decision of the Toulouse court in a case involving the disposition of property. The medical attendant of the deceased was summoned as a witness and the court accepted his testimony for two reasons, first, because he had derived the information as the intimate friend of the family, and not necessarily as the physician of the deceased, and secondly, because the matter in question was widely known throughout the community.

From the recently published official report of the epidemic of the plague last year in Japan, it appears that the sanitary regulations are more advanced and stringent than in the most progressive of the western nations. The notification of cholera, dysentery, typhoid and typhus fever, variola, scarlet fever, diphtheria and plague is obligatory on the physician and also on the head of each private household and public establishment, factory, theater, school, hotel, temple, etc. The owner of the house is responsible for the execution of the measures of disinfection and cleaning ordered by the physician or the sanitary officials. Patients and even well persons can be placed in isolation hospitals at the discretion of the sanitary officials. The corpse of a person dying from one of these diseases must be cremated. As Vallin recently observed, at the Academie de Médecine: "They have jumped with both feet into the midst of European civilization and adopted the latest perfected ideals of hygiene and sanitation, untrammeled by the traditions of personal liberty, etc., with which other countries have to contend." There were 69 cases of the plague in all, with 63 deaths, including 6 among physicians or members of physicians' families. A bounty of two cents was paid for rats, and in three months 35,000 had been destroyed in Kobe and Osaka, the infected cities. Plague bacilli were found on a number of rats taken in portions of the town remote from the foci of infection.

The authorities in Germany are partial to the sick-benefit societies and are practically ignoring the rights of the medical profession in the matter. The physicians of Ludwigshafen have founded a "Society for the Protection of Physicians' Interests," based on the principle of self-help by close organization. The weekly dues of sixteen cents are accumulating a fund to reimburse physicians who incur pecuniary loss in the struggle. Dr. Hartmann, of Leipsic, has also organized a similar association for protection of the economic interests of physicians and has issued an urgent appeal to arm for the fray." "The strike of the medical men at Remscheid and Elberfeld was merely a skirmish at the outposts; the battle is liable to be raging all along the line before long." Another important weapon for the struggle is the sympathetic co-operation of the professional and lay press, which must be secured, with an energetic stand on all questions involving the social and material interests of physicians. The *Berliner Zeitung* recently published an article entitled "The Medical Proletariat." It stated that certain sick-benefit societies paid the physicians from 25 to 60 pfennings per visit, but the Bon system only pays 60 pfennings in all, although the policy-holder is insured for seven days and the physician may have to call seven times. The three months Bon system insures for three months and pays only 1.5 to 2 marks, although the physician may have to make ninety calls.

Correspondence.

Alleged Insanity in the Army.

Washington, D. C., Oct. 22, 1900.

To the Editor:—Sensational paragraphs have appeared in the daily papers concerning the prevalence of insanity among our troops in the Philippines and these paragraphs have found their way into our medical journals and have been commented on by editorial and other writers. To clear up this matter I am authorized to state to you what Surgeon-General Sternberg has said officially on this subject. A summary of his report has been given to the press, but the summary touches lightly on the question, giving merely the absolute number of cases reported. In his full report he shows that the admission rate for the army in 1898 was 1.8 per 1000 men and in 1899, 1.78. The latter rate is higher than the mean annual rate of the decade 1888-97, which was 1.7, but it was exceeded by the rate of one of the years of the decade, the year 1892, when the rate was 1.79. He continues:

> The increase in the rate of admission in 1899 over the mean rate of the decade was due to a general rise in the rates, largest in Porto Rico, 3.76 per 1000, smallest in the United States, 1.37 per 1000.
>
> This increase was to have been expected on account of the rapidity with which recruiting was effected during 1898 and 1899. It is well understood by army medical officers that among recruits there are always more mentally unsound men than among a similar number of civilians of the same age and physical development. The most careful physical examination often fails to detect a man whose brain works irregularly, but who is sane enough to go to the recruiting office. Under the stimulus and excitement of the organization of troops many such men drift to the rendezvous and must be eliminated after muster into service. Men excitable but not actually unbalanced lose their equilibrium under conditions of stress in the field and the first two years of military life are apt to develop many such cases. Hence it was to be expected that the active recruiting of the past two years would bring into the ranks men who would increase the insanity admission rate of the army. That this increase would be found chiefly among those sent to foreign service was also to be expected. No doubt many young men separated from home and friends became the subjects of intense mental depression and their cases were properly recorded on the monthly reports of sick and wounded as cases of insanity; and as the only method affording a prospect of recovery was a return to their homes they were judiciously shipped by transport to the United States. Many such cases recovered during the trans-Pacific voyage or during their detention for observation at the General Hospital, Presidio of San Francisco, Cal., and never reached the Government Hospital for the Insane at Washington, D. C. That this is no mere supposition may be inferred from the following statement concerning the insanity cases of the army as a whole and of the Philippine army:
>
> In the army, regulars and volunteers, during the calendar years 1898 and 1899, there were reported on the monthly reports of sick and wounded 347 cases of insanity, and 202 of these cases or 58.2 per cent., were committed to the Government Hospital for the Insane. One hundred and thirty-five cases, or 66.7 per cent. of the commitments, recovered in an average period of 3.9 months, 13 were improved, 6 died, and 48 remained unimproved. Ninety-six of the 347 cases were

reported on the monthly reports of troops serving in the Pacific islands, and 32 of these, or 33.3 per cent., were sent to the Government Hospital for the Insane. Seventeen cases, or 53.1 per cent., of those committed recovered in an average period of 3.6 months, 2 were improved, 2 died and 11 remained not improved.

It is not deemed necessary to do more than present these official figures to silence the sensational newspaper paragraphs which have been published during the past year relative to the unusual number of cases of insanity which have been returned to the United States from our troops operating in the Philippine Islands. Respectfully, Charles Smart,

Lieut.Col., Deputy Surg.Gen., U. S. Army.

Traumatic Neuroses.

Waverly, N. Y., Oct. 13, 1900.

To the Editor:—I note with surprise the discussion on Professor Bevan's paper in issue of September 22. Is it possible the majority of those taking part in the discussion represent the highest attainment of the neurologists of the present era? If so, there is small wonder that corporations do not generally employ them. I have too much respect for the eminent men, universally known and esteemed throughout the world, who have espoused that field to believe any such thing. Professor Bevan's experience is that of most experienced surgeons, be they railway surgeons or others. While I can not concur in all he says, in the main my experience for thirty years corroborrates his views. But I wish briefly to refer to such authorities as Brourdel, Paget, Charcot and many others of equally worldwide fame, who state the proportion of simulated cases of traumatic neuroses as high as 80 per cent. One such authority claims that they often nurse themselves into a condition of pathologic entity resulting in serious lesions, sometimes resulting even in death. While I do not believe so large a percentage are consciously fraudulent, I do believe a very large percentage, a large majority even, are unconsciously so. Through psychic influences such conditions are engendered and engrafted on the nervous system, and much tact on the part of the surgeon or neurologist is necessary to overcome them. We should consider a very large percentage pure simulation, but not declare them as such to the patient. We should be careful not to overlook the genuine cases and to call to our aid the experienced neurologist if necessary.

R. Sayre Harnden.

Medical Practice in Australia.

Sydney, New South Wales, Sept. 14, 1900.

To the Editor:—You have asked me to give you an occasional short letter. In the Australian colonies lodge practice has become a subject of much interest to the medical profession. Nearly one-fourth of the total population participates in cheap medical attendance through the means of these medical "friendly societies." There are 2650 medical men in the colonies, and of these 170 hold government positions, which prevents them from having private practice. One-third of the remainder have lodges, nearly 1200 souls to every lodge physician.

The medical profession is attempting to change existing conditions, but finds some difficulty in doing so. The lodge practice offers a ready means to the young practitioner to start in life; £150 to £200 per annum gives him some assistance while gaining a private practice. A change in the present system would be an advantage to the profession and public. In 1901 all the colonies come under a federation, and very probably after such a change more harmonious regulations will be established in regard to medical practice.

Years ago men holding American diplomas established some
rather poor records in Australia. The h
rather conservative, so that all Ame
medical man here is somewhat at
has an English degree.

Average Doses in the Next Pharmacopeia.—A Protest.

Saguache, Colo., Oct. 20, 1900.

To the Editor:—At the last convention for the revision of the U. S. pharmacopeia an instruction was given to the revision committee to insert the average dose of each article. This was stated by one of the leaders to be merely a concession to the demand by physicians that the forthcoming revision should result in a more practical manual for their use. In this spirit it was adopted without debate or alteration.

Conversation since that time with many of the delegates to that convention, as well as with professional gentlemen from all sections of the country, convinces us that average doses are not wanted in this work by either physicians or pharmacists, as in many instances they must be a wholly indeterminate quantity, owing to the wide range of conditions that are to be met, and under no circumstances could they be more than a treacherous guide to inexperience.

What is wanted both by physicians and pharmacists and what they have for more than twenty years been demanding is the insertion in this work of maximum safe doses, the intentional exceeding of which by the prescriber shall be indicated by an exclamation mark or otherwise.

This step would bring the work into accord with other standards, assure the prescriber of the usual limit of safe dosage in producing the specific effect of the drug and guide the pharmacist in discriminating between an error and an intentionally large dose. Few situations are more responsible and perplexing to a prescription clerk than to receive a prescription containing unusual doses, yet having no authoritative standard which will justify him in declining to prepare it until he can consult the prescriber. This vital point will be in no way improved by the proposed insertion of the average dose.

The "average" dose of any drug is almost wholly a matter of individual experience and method of treatment. Scarcely two of our American authorities will agree within wide limits on the best dose of a given remedy, even for the same complaint. How absurd, then, to specify an average dose for all complaints and all conditions of environment. The average dose of quinin in the Mississippi Valley would mean certain delirium in our mountain climates. Therefore the one demand for the protection of physician, pharmacist and patient is that this authoritative standard shall simply indicate the maximum safe dose of its preparations which may be exceeded by the prescriber, if necessary, by his indicating that he recognizes its unusual size, and from which he may descend toward infinity just as far as his judgment may guide, that is immaterial; the "maximum" dose is the important and serious one which every one who in any way handles drugs must know. The "average" dose is of service to few. Can not this error, as we consider it, be rectified before the labor of revision goes too far? There will probably be two years yet before its publication. J. Tracy Melvin, Ph.G., M.D.,

Member Convention for Revising U. S. Pharmacopeia, 1900.

Deaths and Obituaries.

Ross Richardson Bunting, M.D., Jefferson Medical College, Philadelphia, 1856, died at his home in Roxborough, Philadelphia, Oct. 9, aged 66. He was the only child of Dr. Thomas Chalkley Bunting. After receiving his degree he studied five years in France and was one of the first Americans to receive the diploma of the Ecole de Médicine of the University of Paris. On his return to America he took charge of the practice of his uncle, Dr. Ross Richardson. He was a member of the principal medical societies and a frequent
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Medical Society of the City of Portsmouth, at a called meeting, Oct. 11, passed resolutions expressing sorrow at his death and respect to his memory.

Ellis Horton, M.D., Medical College of Indiana, 1875, one of the best known physicians in Morgan County, died Oct. 6, from heart disease, a few hours after the death of his wife, at Monrovia, Ind., aged 58. He was the author of the "Hoosier Practitioner," a book which attracted considerable attention when it appeared a few years ago.

Benjamin F. Templeton, M.D., Starling Medical College, Columbus, O., 1887, of Zanesville, died at the City Hospital, Findlay, from appendicitis, Oct. 2, aged 35. The Muskingum County Medical Society at its meeting, Oct. 5, passed resolutions of respect to his memory and of sympathy to his bereaved family.

Andrew C. Bergen, M.D., an old resident of Sioux City, Ia., a graduate of Long Island College Hospital in 1870, lieutenant-colonel and assistant surgeon-general Iowa National Guard, and major-surgeon 52d Iowa Infantry, U. S. V., in the Spanish-American War, died from apoplexy, October 3.

Wadsworth A. Ward, M.D., Conneaut, Ohio, died September 30, after a long illness. He was graduated from the medical department of Western Reserve University, Cleveland, in 1861, resided for nearly forty years in Conneaut, and was surgeon to the Chicago, New York & St. Louis Railway.

Abner V. Doak, M.D., who studied medicine in the University of Virginia, served during the Civil War as surgeon in the Confederate service, was graduated from Bellevue Hospital Medical College and then engaged in general practice in Taylor, Tex., died September 15, aged 62.

William W. Brown, M.D., died a few hours after a cerebral hemorrhage, brought about, it is claimed, by an exciting automobile ride, at his home in Brooklyn, N. Y., October 5, aged 48. He was a graduate of Bellevue Hospital Medical College in 1884.

Benjamin F. Temple, M.D., died at Zanesville, Ohio, October 2, two days after an operation for appendicitis had been performed. He was graduated from Starling Medical College, Columbus, in 1887, and was 35 years of age.

William C. Towle, M.D., Medical School of Maine, 1855, died recently at his home in Fryeburg, Me., aged 70 years. During the Civil War he served as surgeon of the 12th and 23d Maine and the 8th Indiana regiments.

Charles Mitchell, M.D., University of Louisville, 1871, died recently at Nashville, Tenn. The Nashville Academy of Medicine met Oct. 4, to express the esteem felt for Dr. Mitchell and the regret at his death, and appointed a committee to draft suitable resolutions.

Titus Duncan, M.D., University of Michigan, 1862, one of the oldest and best known practitioners in Michigan, who served throughout the war in the medical department of the army, died at his home in Saginaw, Oct. 4, after a lingering illness, aged 66.

John Paul Jones, M.D., Bellvue Hospital Medical College, 1886, formerly a medical officer in the navy, and later a resident of Pine Bush, N. Y., died suddenly at Comfort, Texas, Sept. 26, age 38.

John T. Miller, M.D., who, although a graduate in medicine, had not practiced for many years, died at his home and birthplace, Edgewood, near Louisville, Ky., Oct. 12, from cancer of the stomach, aged 69.

Curtis Clark Strong, M.D., Bellevue Hospital Medical College, New York, 1872, who had practiced medicine for twenty-eight years in Portland, Ore., died in that city Oct. 11, after a lingering illness, aged 52.

George W. Woodliff, M.D., Atlanta, (Ga.) Medical College, 1888, a resident of Oscarville, Forsyth County, died from rheumatism at the Grady Hospital, Atlanta, Oct. 3, aged 39.

William R. Larkin, M.D., Bellevue Medical College, 1880, surgeon of the New York Fire Department for many years, died at his home in New York, Oct. 15, aged 42.

James H. Lafferty, M.D., College of Physicians and Surgeons, Baltimore, 1881, and for many years a practitioner at New Florence, Pa., died Oct. 14, after an illness of about two weeks, aged 46.

Joseph L. Cutler, M.D., New York University, 1850, and since that time a resident of Bolivar, N. Y., and a leading surgeon of Allegheny County, died at his home, Oct. 14, from uremic poisoning, aged 71.

John W. Elston, M.D., Bellevue Hospital Medical College, New York, 1871, one of the pioneer-physicians of Kansas City, Mo., died in Burila, Colo., Oct. 12, from Bright's disease, aged 56.

Franklin Smith, M.D., University of New York, 1865, died on Oct. 9, at his home, in New York City, where he had practiced for more than twenty-five years, age 76.

Louis Roch Perrault, M.D., Laval University, Quebec, 1887, who had practiced for a long time at Franklin Falls, N. H., died from cancer, Oct. 16, aged 38.

N. J. Paschall, M.D., Jefferson Medical College, 1869, a prominent physician of Fulton, Ky., died at his home, Oct. 12, two days after a stroke of paralysis.

Henry B. Gwynn, M.D., Baltimore University, 1887, who had been engaged for many years in teaching, and was principal of Grammar School No. 1 in Baltimore, died at Gordonsville, Va., Oct. 11, from paralysis, aged 45.

T. H. Hairston, M.D., University of Louisville, 1892, died at Marlin, Texas, Oct. 7, from hemorrhage of the bowels, after an illness of two weeks, aged 33.

David Brock, M.D., Tennessee Medical College, Knoxville, 1899, died at his home, Unitia, Tenn., Oct. 7, from consumption, aged 27.

William M. Caterson, M.D., Jefferson Medical College, Philadelphia, 1875, died at his home in Philadelphia, Oct. 7, aged 70.

George Nelson Jones, M.D., McGill University, Montreal, 1874, died at his home in Burlington, Iowa, Oct. 17, aged 48.

Benjamin A. Fichtner, M.D., Confluence, Pa., died at Mount Pleasant, Oct. 7, from hemorrhage of the bowels, aged 65.

James M. Suggett, M.D., Transylvania University, Lexington, Ky., 1847, died at his home in Flora, Ill., Oct. 9, aged 77.

John C. Bechtel, M.D., University of Pennsylvania, Philadelphia, 1876, died Oct. 11, at Rehrersburg, Pa., aged 49.

Milton D. Brown, M.D., Harvard University Medical School, Boston, 1894, of Baltimore, died recently at the residence of his parents, Charles City, Va.

John Gordon Frazer, M.D., New York University, 1865, formerly of New York City, died Oct. 4.

Benjamin Hussey West, M.D., Harvard University, 1838, a resident of Boston, died Oct. 11, aged 86.

John Mills, M.D., Pana, Ill., died Oct. 16, aged 81.

Miscellany.

Explanation.—Owing to an oversight part of the discussion of Dr. Peter A. Callan's paper on "Operations for Secondary Cataracts," in issue of October 13, was omitted. It will appear next week.

Extirpation of Gasserian Ganglion.—F. Krause now has a record of twenty-four cases of rebellious trigeminal neuralgia treated by extirpation of the Gasserian ganglion. Two of the patients have died since, the deaths not being directly imputable to the operation. All the rest are permanently cured.

Experimental Extirpation of the Liver.—Salaskin states that some dogs survived for three to five hours after extirpation of the liver. The urea in the urine was diminished during the interval before death, but not to such an extent in proportion, as the decrease in uric acid in geese after extirpation of the liver.

Sterilization of Sponges.—Carrière reports in the *Arch. Prov. de Chir.*, 1900, ix, that sponges can be rapidly and effectively sterilized without injuring their structure, in a 10 per cent. solution of hydrogen peroxid, in which they are left to soak for twenty-four hours. The absorbent properties of the sponges are not diminished even after six or seven months in the solution. The abstract in the *Cbl. f. Chir.* mentions that his tests were restricted exclusively to the bacillus subtilis.

Useless Efforts.—Certain of our foreign exchanges are commenting editorially in a pessimistic vein, on the futility of all efforts to educate the public in the matter of hygiene. "The most impassioned apostles of hygiene and sanitary progress seem to be powerless to convince even their own wives and daughters of the dangers of trailing their skirts through the filth of the streets, collecting animal ordure and urine and pathogenic microbes, and then dragging them into private houses."

Ophthalmic Hints.—The *Berliner Klin. Woch.* for July 9 mentions two practitioners who have found mercury extremely effective in ocular affections: Heddaus uses calomel internally or inunctions of gray ointment in blepharitis, and Guthmann, calomel, combined with local treatment in scrofulous and ocular affections. Jaqueau advises sewing the eyelid down after operating for cataract, in case of senile, rebellious or imbecile patients. Wolfberg recommends a hollow bandage after operations on the eye, made of lint mixed with glycerin-gelatin or formalinized bookbinders' glue, moulded over the orbit to form a tight, hollow cap, closely adhering but nonirritating.

The Blister as a Means of Determining Death.—The *Journal de Médecine*, of Paris, of August 19, states that an absolutely reliable means of determining whether death is apparent or real, is to hold a candle to the skin for a few moments until a blister forms, which soon occurs. If there is still life in the body the blister will be filled with serous fluid, in obedience to the inevitable physiologic laws, but if death has actually occurred, the tissues obey only the physical laws, and these compel the fluid in a heated tissue to pass into the form of vapor. Therefore, if the blister contains merely steam, the body is an inert cadaver, but if the contents are fluid, life is not extinct.

Should We Treat Fever?—In the discussion of this question at the International Medical Congress, Stockvis declared that "nursing, not treatment," was what febrile patients require; hygienic, analeptic, dietetic measures, hypurgia. Robin observed that in simple hyperthermia the general oxidations are increased, while in grave hyperthermia the oxidations are diminished and merely the elementary phenomena of disassimilation are augmented. The chemical processes of the organism, the diuresis and the nervous system should be stimulated in the latter. Reduction of the temperature alone is useless, as it is merely one manifestation of the febrile state. Huchard pointed out the varieties of fever in tuberculosis for example, each originating from a different process, germination, inflammation or absorption. Antithermia, he concluded, is easily induced, but of little practical use; antipyresis is more difficult to attain, but its triple aim of promoting chemical interchanges, diuresis and stimulating the nervous system, is sometimes reached by cold baths and weak doses of quinin—large doses produce the opposite effect.

A Peculiar Case of Cyanosis.—Dr. William Osler reports a remarkable case of cyanosis in a young white man now at the Johns Hopkins Hospital. He is a Pole, and it was difficult to elicit his history. He entered October 3. His illness began September 29, with chill, fever, pain in the chest, stomach and head and diarrhea. He had also had cough and expectoration and had been confined to bed. On admission he complained of pain in the abdomen, had considerable dyspnea, dry tongue and deep cyanosis. The respirations were 30 per minute, but the dyspnea was not urgent. There was slight emphysema and asthma. The leucocytes numbered 18,000. There was practically no fever, the temperature being, as a rule subnormal. He had remained practically in the same condition, the cyanosis being as noticeable in the recumbent as the erect posture. On October 7 petechiæ appeared about the face and extended over the entire body except the legs. The appearance was very like malignant hemorrhagic smallpox. The eosinophiles were 11 per cent. October 11, he complained of extreme tenderness over the muscles, and some muscular tissue was extirpated for examination. Much fatty degeneration was found. The eosinophiles were 25 per cent. October 14 the cyanosis began to diminish. Blood cultures were negative. Albumin was doubtful; there were no casts. The muscular tenderness had disappeared. Pulse good. There was a little puffiness of the face and eyelids. The petechiæ were still extensive. Dr. Osler regarded the case as entirely anomalous.

MARINE-HOSPITAL NOTES.

Asst.-Surgeon J. W. Kerr, who has been detailed for duty in the office of the United States Consul-General at Hong Kong, China, sailed from Honolulu for Hong-Kong on the steamship *Coptic* on Sept. 22.

QUARANTINE SERVICE IN PHILIPPINE ISLANDS.

An executive order has been issued which details a commissioned officer of the Marine-Hospital Service on the staff of the military governor of the Philippine Islands as chief of the quarantine service of the islands. P. Asst.-Surgeon J. C. Perry has been detailed as such officer.

YELLOW FEVER IN HABANA.

Reports from Surgeon Glennan at Havana show that for seventeen days ending October 17, there were 175 new cases and thirty-nine deaths.

Asst.-Surgeon R. L. Wilson has been ordered from San Francisco to Honolulu to report to Surgeon Carmichael for duty at the marine-hospital station recently established at Honolulu for the treatment of seamen of the American merchant marine. Asst.-Surgeons Dunlop Moors and Carroll Fox, and Hospital Steward Myron R. Mason have been ordered to return from Dutch Harbor, Alaska, at the close of navigation. Assistant Surgeons B. H. Earle and B. J. Lloyd, who have been on duty at the national quarantine station at Nome, Alaska, are expected to return on the last revenue cutter leaving Nome at the close of the season.

The acting asst.-surgeons at the fruit ports of Central and South America have been ordered to return to the United States, November 1. This inspection service will be re-established on the same lines the coming season. The acting asst.-surgeons who were appointed in July last at Handsboro, Biloxi, Pascagoula, Scranton, Bay St. Louis, Pass Christian, McHenry, Ocean Springs and Gulf Port, Mississippi, to act as sanitary observers with a view especially to the early detection and report of first cases of yellow fever on the Gulf Coast, have also been discontinued. In addition to the places named above, the service has had its regular officers in all large ports on the South Atlantic and Gulf, who were given special instructions to maintain vigilance at their respective ports.

SANATORIUM FOR CONSUMPTIVE SAILORS.

The Marine-Hospital Sanitarium at Fort Stanton, New Mexico, is now pretty well equipped, and there have been admitted since November, 1899, up to the present time, 78 patients suffering with tuberculosis. Of these 11 have been discharged recovered, 13 improved in health with prospect of recovery, and 8 have died, showing a very fair percentage of recoveries. Of the 8 who died, 7 were cases too far advanced at the time of their arrival to be benefited by the change of climate. It would seem from the above that the establishment of this sanitarium, which was sanctioned by the last Congress, was a wise measure, and it is in line with the efforts of State and municipal authorities to make provision for this class of patients.

PLAGUE SITUATION IN GLASGOW.

Cable reports from P. A.-Surgeon Thomas, at Glasgow, show that for the week ended September 29 there were four deaths from plague in the city, but no new cases; week ended October 6, one death but no new cases; and during the week ended October 13 there were no deaths and no new cases. The authorities, therefore, have probably succeeded in suppressing the epidemic. During the outbreak there have been eight deaths all told.

A CASE OF PLAGUE AT SAN FRANCISCO.

Another case of plague has been reported by the local board of health at San Francisco as occurring October 5, the diagnosis having been confirmed by bacteriological examination, October 11. The case was taken from the same house from which a fatal case was taken July 5 to the City Hospital. This is the first case reported since August 18. It is presumed that the case was a Chinaman, as were the other cases.

YELLOW FEVER IN HABANA.

Reports from Surgeon Glennan, at Habana, show that for the week ended October 5 there were 55 cases of yellow fever officially reported in that city, with 16 deaths, and for the week ended October 12 there were officially reported 76 cases, with 14 deaths.

DETENTION OF NON-IMMUNE PASSENGERS FROM HABANA.

The value of the quarantine regulations requiring detention at northern ports of non-immune passengers from Habana a length of time to complete five days from departure was illustrated recently at the New York quarantine. A saloon passenger who had been given a red ticket at Habana by Surgeon Glennan, thus indicating that he was not immune, was detained at Hoffman Island. The voyage from Habana generally requires three and one-half days, so the passengers of this class are subject to one and one-half or two days detention. The same night, he developed a marked case of yellow fever and was transferred to Swinburne Island, where, according to Dr. Doty, he is doing well.

AN IMPROVED FORMALDEHYDE GENERATOR.

Under date of August 14, 1900, the acting director of the laboratory made a report to the surgeon-general on an improved formaldehyde lamp, of which a thorough test, lasting about a month, had been made. This lamp, known as the Kuhn Generator, is an apparatus designed to produce formaldehyde gas by the de-hydrogenization of wood or methyl alcohol. This is accomplished by passing the vapor of alcohol through discs or plates which contain incandescent, metallic platinum in a state of fine division. It is an improvement on the lamp that was designed and reported on by Surgeon Kinyoun. So satisfactory were the results of the tests that a dozen of the lamps have been purchased and are now in actual operation at the quarantine stations, where a thorough test of their durability, as well as practical utility, will be made. The advantages of an efficient lamp of this kind are so many that an enumeration of them in a short article is impossible. The full report, giving the details of the experiments, will be published shortly.

Societies.

Coming Meetings.

Southern Surgical and Gynecological Association, Atlanta, Ga., Nov. 13-15.

The Tri-State Medical Association of Mississippi, Arkansas and Tennessee, Memphis, Nov. 13-15.

Oklahoma Territory Medical Society, Oklahoma City, Nov. 15.

Indian Territory Medical Association, Muscogee, Dec. 4-5.

Pan-American Medical Congress, Havana, Cuba, Dec. 26-28.

Western Surgical and Gynecological Association, Minneapolis, Minn., Dec. 27-28.

The Amesbury (Mass.) Medical Association, at its annual meeting, October 12, elected Dr. John A. Fitz-Hugh secretary and Dr. John A. Douglass, treasurer.

The Delaware County (Ind.) Medical Society met at Muncie, October 10. Dr. George W. H. Kemper presented a paper entitled "A Half-Hour with Hippocrates."

The Brookline (Mass.) Medical Club has elected the following officers: Dr. J. Henry Woods, president; Dr. Henry M. Cutts, vice-president, and Dr. George H. Francis, secretary and treasurer.

The Iowa and Illinois District Medical Society held its quarterly meeting at Rock Island, Ill., October 11, and listened to a paper by Dr. St. Elmo M. Sala, Rock Island, on "The Treatment of Typhoid Fever."

The Osage County (Kas.) Medical Society organized at Osage City, October 9, and elected the following officers: Dr. Albert L. Stubbs, Burlingame, president; Dr. Edwin B. Packer, secretary, and Dr. William B. Artz, treasurer.

A "Physicians' Club" has been formed at Greenfield, Mass. At the initial meeting, October 10, Dr. Halbert E. Stetson, Greenfield, was elected president and Dr. George A. Cooke, Montague, secretary and treasurer.

The Essex North District (Mass.) Medical Society entertained the Essex South District Medical Society at its meeting in Newburyport, October 10. Dr. William B. Coley, New York, delivered an address on "The Results of Modern Methods in the Treatment of Cancer."

The Detroit Academy of Medicine, at its annual meeting, October 9, elected Dr. Arthur D. Holmes, president; Dr. Heneage Gibbes, vice-president, and Dr. Harrison D. Jenks, secretary-treasurer. A special committee was appointed to investigate the Physicians' Business League.

The Clark County (Ky.) Medical Society met at Winchester, October 13. Dr. J. N. McCormack, Bowling Green, secretary of the State Board of Health, addressed the society on state sanitary matters with especial reference to county boards of health.

The North Berkshire District (Mass.) Medical Society met at North Adams, September 25, and elected the following officers: Dr. William Galvin, Blackinton, president; Dr. Nicholas Crofts, North Adams, vice-president; and Dr. Lyman A. Jones, North Adams, secretary and treasurer.

The Ophthalmological and Otological Society of Washington, Dr. S. O. Richey, president, held its first fall meeting, October 9, at the residence of Dr. W. K. Butler, who read the paper of the evening, entitled, "The Necessity for Wearing Glasses."

The Guthrie District (Okla.) Medical Society organized on September 29 and held its first regular session, October 10, with the following officers: Dr. John R. Hamil, president; Dr. Abraham L. Blesh, vice-president, and Dr. Eugene O. Barker, secretary.

The Northeastern Iowa Medical Society held its semiannual meeting at Waukon, October 12, at which papers were presented by Dr. Daniel H. Bowen, Waukon, on "Typhoid Fever"; Dr. J. Cliff Crawford, Waukon, on "Catarrhal Pneumonia," and Dr. Philo M. Jewell, Decorah, on "Surgical Appendicitis."

The Orange Mountain (N. J.) Medical Society held its two hundredth meeting, Oct. 12, at Newark. The president, Dr. James S. Brown, Montclair, paid a tribute to the memory of the late Dr. William Pierson. Dr. Thomas W. Harvey, Orange, then gave a short résumé of the history of the society since its organization in 1883.

The Lawrence County (Pa.) Medical Society held its annual election of officers at New Castle, Oct. 11, with the following result: Dr. John Foster, president; Drs. Wallace and Charles A. Reed, vice-presidents; Dr. Edwin C. McComb, secretary, and Dr. William G. Wilson, treasurer, all of New Castle.

The Jackson County (Mo.) Medical Society held its annual meeting at its rooms in Kansas City, Oct. 11, and elected the following officers: Dr. Amos A. Freyman, president; Dr. Winn F. Morrow, vice-president, Dr. Franklin E. Murphy, secretary; Dr. Louis W. Luscher, treasurer; Dr. Charles B. Hardin, censor, and Dr. Edward H. Thrallkill, librarian.

The San Joaquin Valley (Cal.) Medical Association held its annual meeting at Visalia, October 9, and elected the following officers: Dr. J. Lawrence Maupin, Fresno, president; Drs. John B. Rosson, Tulare, Henry Hildreth, Delano, and Thomas O. McSwain, Visalia, vice-presidents; Dr. Joseph D. Davidson, Fresno, secretary, and Dr. Thomas M. Hayden, Fresno, treasurer.

The Medical Association of the St. Francis District, P. Q., at its quarterly meeting at Sherbrooke, elected Dr. T. L. Brown, Richmond, president, Dr. Stevenson, Coaticook, vice-president, and Dr. Thomas, Lennoxville, secretary. The transmission of typhoid fever and the question of medical fees were discussed.

The Chicago Gynecological Society held its annual meeting, Oct. 19, 1900, and elected the following officers: Dr. Reuben Peterson, president; Drs. Lester E. Frankenthal and Henry Bangs, vice-presidents; Dr. William H. Rumpf, secretary; Dr. Addison H. Foster, treasurer; Dr. Charles S. Bacon, editor; Dr. Emil Ries, pathologist.

The Idaho State Medical Society, at its meeting at Boisé, October 4 and 5, elected the following officers: Dr. Joseph R. Numbers, Weiser, president; Dr. Hubert A. Castle, Pocatello, vice-president, and Drs. John W. Given, Blackfoot, Robert L. Nourse, Hailey; Jesse L. Conant, Genesee; Charles W. Shaff, Lewiston, and Lucian P. McCalla, Boisé, board of censors.

The Wayne County (Mich.) Medical Society, at its annual meeting, October 4, elected Dr. John J. Mulhern, president; Dr. Samus Bell, vice-president; Dr. George G. Gordon, secretary, and Dr. C. Henri Leonard, treasurer. Dr. Edgar B. Smith offered at paper on "Preparation for Surgical Operations"; and Dr. Edward T. Milligan addressed the society on October 18, on "Adenoid Vegetations."

The Cumberland District (N. J.) Medical Society convened at Millville, October 9, when papers were presented by Dr. Dowling Benjamin, Camden, on "Some Mooted Points in Pelvic and Abdominal Surgery," and by Dr. Charles W. Wilson, Vineland, on "Treatment of Appendicitis from the General Practitioner's Standpoint." Dr. S. Thomas Day, Port Norris, was elected reporter for the ensuing year.

The Hartford (Conn.) City Medical Society at its October 1 meeting was presented by Dr. W. Gordon Russell with a stately carved oaken chair for the use of its presiding officer and also with some beautiful anatomical drawings, the donor of which wished to remain unknown. Drs. Arthur J. Wolff and Charles E. Taft reported cases and presented specimens, and Dr. George R. Shepherd read a paper on "Non-Surgical Methods for Treating Cancer."

The Brashear Medical Society held its quarterly meeting at Bloomfield, Ky., October 16. Dr. Aloysius G. Blincoe, Bardstown, read a biographical sketch of Dr. Walter Brashear, and a paper on "Some Facts, Fancies and Fallacies About Eye-Strain"; Dr. William W. Ray, Springfield, presented a paper on "Some Practical Trifles"; Dr. Benjamin E. Gore, Bardstown, one on "What Shall We Prescribe?" and Dr. J. T. Tichenor, Waterford, one on "Erysipelas."

The Middlesex Sohth District (Mass.) Medical Society met at Cambridge, October 10. Dr. Zabdiel B. Adams read a paper entitled "When Should the Medical Examiner Be Called?" Dr. Julian A. Mead, Watertown, considered "The Duties of the Medical Examiner"; Dr. Eugene G. Hoitt, Marlboro, compared the "Advantages of the Medical Examiner System Over the Coroner System," and made suggestions toward the betterment of the present law, and the Hon. John R. McLaughlin discussed "The Medical Examiner and the Physician in the Witness-Box from the View-Point of the Lawyer."

The Cheshire County (N. H.) Medical Society held its annual meeting at Keene, October 9. The guest of the evening was Dr. Charles G. Cumston, Boston, who delivered an address on "Cancer of the Liver and Gall-Bladder." Dr. Silas M. Dinsmoor, Keene, read a paper on "Some New Remedies," and the retiring president, Dr. Israel A. Loveland, Gilsum, delivered the annual address on "The Prevention of Nervous Diseases Throughout the State."

The McDonough County (Ill.) Medical Society held its annual meeting at Macomb, October 2. Papers were read by Dr. John P. Roark, Bushnell, on "Rheumatism"; Dr. Arthur D. Pollock, Macomb, on "The Treatment of Typhoid Fever and Its Complications," and Dr. Samuel C. Stremmel, Macomb, on "Dysmenorrhea." The following officers were elected: Dr. Joseph B. Holmes, Macomb, president; Drs. John B. Roark, Bushnell, and Henry Knappenberger, Macomb, vice-presidents; Dr. Robert E. Lewis, Macomb, secretary and treasurer, and Dr. Elizabeth R. Miner, Macomb, necrologist.

The Somerset County (Pa.) Medical Association held its annual meeting at Meyerdale, October 18. and elec[illegible] lowing officers: Dr. Bruce Lichty, Meyersdale, pr[illegible] Henry Garey, Berlin, v[illegible]sident [illegible]. H. Clay Meyersdale, secretary [illegible] Meyer[illegible] responding secreta[illegible] Co[illegible] treasurer.

The Fulton County (Ill.) Medical Society held its third annual meeting at Canton, October 2, and elected the following officers: Dr. W. E. Schallenberger, Canton, president; Drs. Perry H. Stoops, Ipava, and S. B. Bennett, Canton, vice-presidents; Dr. David S. Ray, Jr., Cuba, secretary, and Dr. Frank M. Harrison, Bryant, treasurer. Dr. Paul S. Scholes, Canton, read a tribute to the late Dr. Joseph V. Harris; Dr. Ellen Heise, Canton, presented a paper on "Smallpox"; Dr. Willis T. Ziegler, Canton, one on "Appendicitis," and Dr. Thomas R. Plummer, Farmington, one on "Tonsillitis."

The National Association of Colored Physicians and Surgeons held its fourth annual meeting at St. Louis, October 3 and 4. Papers were read by Dr. John W. Rowland, Pine Bluff, Ark., on "La Grippe Meningitis"; Dr. Willis E. Sterrs, Decatur, Ala., on "Typhoid Fever"; Dr. John W. Norrell, Elizabethtown, Ky., on "Carcinoma of the Pyloric End of the Stomach." The following officers were elected: Dr. Ferdinand A. Stewart, Nashville, Tenn., president; Dr. A. Wilberforce Williams, Chicago, vice-president; Dr. John W. Norrell, Elizabethtown, Ky., secretary, and Dr. Ottoway T. Fields, St. Louis, treasurer. The next meeting will be held in Hot Springs, Ark., in September, 1901

The Iowa State Association of Railway Surgeons convened at Des Moines, October 11, for its seventh annual session. President Dr. Nathan C. Morse delivered an address in which he urged that the principles of first-aid be taught in our public schools and generally. Papers were read by Dr. John N. Warren, Sioux City, on "Fractures of the Pelvis"; Dr. David S. Fairchild, Clinton, on "Sequela of Case of Nerve Injury Presented at Clinton Meeting"; Dr. Gilbert Baldwin, Ruthven, on "Talma's Operation, Report of Case"; Dr. John C. Schrader, Iowa City, on "Railway Surgeons as Sanitarians"; Dr. Van Buren Knott, Sioux City, on "The Use of Anesthesia in the Diagnosis and Treatment of Fractures"; Dr. Henry C. Eschbach, Albia, on "Ununited Fractures"; Dr. Paul E. Gardner, Hazleton, on "Injuries of the Elbow-Joint": Dr. Francis V. Shore, Des Moines, on "The Simulation of Eye Diseases"; Hon. Carroll Wright, Des Moines, on "The Relation of the Railway Surgeon to His Patient"; Dr. Gilbert G. Cottam, Rock Rapids, on "Technic and Limitations of Emergency Surgery"; Dr. Arthur L. Wright, Carroll, on "Hernia"; Dr. George C. Stockman, Mason City, on "Submeningeal Cocain Anesthesia"; Hon. W. H. Bailey, Des Moines, on "What Pecuniary Compensation Should One Receive for Disabling Injury or Loss of Life?" The following officers were elected: Dr. Gilbert G. Cottam, Rock Rapids, president; Dr. Arthur L. Wright, Carroll, vice-president; Dr. Ira K. Gardner, New Hampton, secretary, and Dr. Gilbert Baldwin, Ruthven. treasurer. Des Moines was selected as the next meeting-place of the association.

New York State Medical Association.

Seventeenth Annual Meeting, held in New York City, Oct. 15-18, 1900.

President Dr. E. D. Ferguson, Troy, in the chair.

There was a very largely-attended meeting of the Council and Fellows held in the forenoon of the first day at the New York Academy of Medicine, in accordance with the plans for re-organization of the State Association. It will be remembered that the "Fellows" are the delegates appointed to represent the whole Association on a basis of representation of one in ten. The meeting was called to order promptly by the president of the Association, Dr. E. D. Ferguson, who then delivered an address in which he set forth the more important changes which it was proposed to make in the organization of the Association.

Dr. Frederick Holme Wiggin, chairman of the Committee on Reorgan[illegible], in presenting the report of this committee— [illegible] delivered an address in which he [illegible] need for better organization, and [illegible] been awakened in various parts [illegible] with the proposed action of

An attempt was then made to consider the by-laws seriatim, but after considerable discussion it became evident that those present had not fully grasped the full meaning of the proposed plan, and accordingly the by-laws were referred to an enlarged committee.

The Association was called to order by the President promptly at 10 a. m., Tuesday, and it then formally accepted the charter procured last spring. This having been done, the Association took a recess to allow an opportunity for the Council and Fellows to meet and pass on the proposed by-laws. The enlarged committee presented to this body the result if its labor since the session of the day previous. In brief, it may be said that while they recommended the adoption of the general plan, as printed and circulated, they were in favor of certain minor changes. Among the latter, was the proposition to postpone, for the present, the institution of associated medical defense and the conferring of a death-benefit. After a very full discussion by the Council and Fellows, the report of the committee was adopted, the new by-laws stating very clearly the purpose of the Association to embark in the work of defending its members against suits for malpractice at no very distant day. This preliminary business served to clear the air of many doubts, fears and suspicions thaat had hovered over the convention at its first session, and in the succeeding days of the meeting it was a matter of common remark that the spirit of harmony and good fellowship was abroad, and that the members of the New York State Medical Association were cemented together by closer ties than ever before.

A NEW THEORY OF MUSCULAR RHEUMATISM.

Sir James Grant, Ottawa, at the opening of the regular scientific session, was presented to the Association, and he embraced the opportunity to describe his studies in muscular rheumatism, and his recently published conclusion, to the effect that muscular rheumatism is dependent on the accumulation in the muscles of an abnormal charge of electricity. The treatment, founded on this theory, has certainly proved very successful in his hands. It consists in plunging a number of fine needles into the affected muscles, and almost immediately withdrawing them. When this had been done, it would be found that the rigidity and pain in the muscles had disappeared. By connecting the needles with an electrometer one could easily satisfy himself of the existence of the electrical charge, as well as of its removal by passage through the uninsulated needles to the person of the physician.

ANALOGY BETWEEN NERVOUS AND ELECTRIC CONDUCTIBILITY, AND THEIR RELATION TO FUNCTIONAL NEUROSES.

Dr. A. D. Rockwell, New York City, read a paper with this title. He considers that there is an analogy between nerve conductibility and the variations in electric conductibility noticed in an instrument known as a "coherer." This is a glass tube filled with iron filings. It does not normally conduct electricity, but if placed in a solenoid situated in the path of a high frequency current, it at once becomes a conductor, presumably because this current has produced an expansion of the sheaths of condensed ether supposed to surround each particle of metal. The natural resistance of the neurons is thought to be overcome in a similar manner.

COCAINISM.

Dr. T. D. Crothers, Hartford, Conn., read a paper on this topic. He said that cocainism appears in two forms, the periodic and the continuous. The principal action of cocain is a stimulation of the brain, producing a sense of exhilaration and a peculiar exaltation of brain activity. The stage of intoxication is marked by great talkativeness, a flow of speech which is in marked contrast with the speech of the alcoholist. Again, the cocainist may be distinguished from the alcoholist by his solitary habits. A significant symptom in the later stages is a sensation of bugs crawling over the skin. The prognosis is always grave. In treating cocainism, the speaker recommended the immediate withdrawal of the drug, and the use of valerian, hyoscyamus and other drugs of that class as temporary substitutes. The patient should be sent away to a sanatorium until the acute symptoms had subsided, and after that should remain for a long time under the constant supervision of his family physician. One cause for the undoubted increase in the use of cocain is that it is sold everywhere without the restraint of law. Other reasons for the spread of cocainism are its reckless use by many physicians, and its presence in many proprietary preparations.

HEART COMPLICATIONS IN RHEUMATISM.

Dr. James J. Walls, New York City, presented in this paper some of the views recently expressed at the International Medical Congress in Paris. He stated that there is little doubt that acute rheumatism is an infectious disease, although its specific cause must be totally different from micro-organisms known at present. The treatment should embrace measures calculated to secure antisepsis of the alimentary canal.

TREATMENT OF PATIENT PRECEDING EXPECTED CONFINEMENT.

Dr. Edward P. Davis, Philadelphia, read the opening paper of the symposium on obstetrics. Commenting on the importance of a careful supervision of the excretory functions, he said that the occurrence of neuralgic disturbance of the cardiac rhythm, changes in temperament, loss of appetite and vague frontal headache, associated with diminished excretion, constitutes a clinical picture of great significance. In the latter part of pregnancy, it is well to limit the consumption of meat to once daily. The presence of serum albumin alone in the urine is of but little significance. When toxemia is present, water should be drunk freely, and it could also be used to advantage in the form of colonic washings. Calomel, in doses of 1/20 of a grain, night and morning, is very useful in increasing the elimination of urinary solids. If sedatives are needed in cases of toxemia, chloral or some derivative of it gives the best results. Walking is a most valuable exercise for pregnant women of all classes of society. A diagnosis of central placenta prævia at any time during pregnancy should be considered a positive indication for the immediate induction of labor.

MANAGEMENT OF NORMAL LABOR, INCLUDING THE USE OF FORCEPS.

Dr. Austin Flint, Jr., New York City, insisted on the pregnant woman taking daily walks up to the time of confinement, the object being to strengthen the muscles, soften the cervix and guard against malpresentations. A thorough pelvic examination, he said, should be made at the end of the eighth month.

OPHTHALMIA NEONATORUM.

Dr. John E. Weeks, New York City, was favorable to the employment of the Credé method of prophylaxis in all cases. The treatment should consist in washing out the eyes every half hour with a 3 per cent. boric acid solution, together with a daily application to the lids of a 1 per cent. solution of nitrate of silver, and the use of cold applications until secretion ceases.

AFTER-TREATMENT OF THE MOTHER IN NORMAL CASES.

Dr. George W. Jarman, New York City, contributed this paper. Attention was called to the importance of the physician's remaining at hand for at least one hour after delivery in order to insure continued firm contraction of the uterus. He saw no objection to urinating in the sitting posture after the third day. It was not generally known that an excessive secretion of milk could be materially diminished by taking coffee. Hemorrhoids were often quite troublesome after labor, but would usually be relieved by cold applications and the use of suppositories containing one grain of ichthyol.

PUERPERAL SEPSIS; ITS PATHOLOGY AND TREATMENT.

Dr. William R. Pryor, New York City, said that autoinfection in puerperal women had been pretty thoroughly disproved, with possibly a few very rare exceptions. The cases could be divided into two classes, septic thrombosis and pelvic lymphangitis. The first class is especially fatal. He mentioned the popular treatment by intermittent washings only to condemn it as inefficient and harmful. Cases of septic thrombosis were the only ones in which he would resort to hysterectomy. He commences treatment by thorough curettage of the uterus and washing out of debris, and follows this by a free incision into the cul-de-sac and evacuation of serum. He then applies a Mikulicz dressing, using a specially prepared iodoform gauze. Cold enemata of salt solution are used every three hours to favor elimination.

TECHNIQUE OF BLOOD EXAMINATION.

Dr. Edward K. Dunham, New York City, opened the evening symposium on the blood by describing the methods of determining the specific gravity and reaction of the blood, and of estimating the quantity of hemoglobin and the number of corpuscles.

LEUCOCYTOSIS IN RELATION TO SURGICAL DIAGNOSIS.

Dr. Joseph C. Bloodgood, of the Johns Hopkins University, discussed the interesting relations of leucocytosis to appendicitis, peritonitis and obstruction of the bowel. He said that in cases of appendicitis the absence of a leucocytosis does not exclude a small abscess, but its presence is almost pathognomonic of absence. A high leucocyte count in the first twenty-four hours of a peritonitis was of little significance, but its persistence after this time made the prognosis more favorable. He had found that intestinal obstruction from any cause is almost invariably followed in a few hours by a rise in the leucocyte count.

PERNICIOUS ANEMIA.

Dr. Alfred Stengel reviewed in this paper the literature, and said he would regard as pernicious anemia a case presenting the usual symptoms of this disease, together with a count of the red blood-corpuscles amounting to 1,500,000, and a proportionate number of leucocytes. By appropriate treatment it was entirely possible to stay the progress of the disease for several years.

LEUKEMIA.

Dr. C. Y. White, Philadelphia, considered leukemia under two heads, namely, splenomyelogenous leukemia and lymphatic leukemia. The anemia of the second variety is less marked, and there is less red cell degeneration and leucocytosis.

PARASITES IN THE BLOOD.

Dr. Leon T. Le Wald, New York City, under this heading, gave an interesting account of the two very recent and famous experiments by which had been demonstrated the positive part played by the mosquito in the malarial infection of man.

VALUE OF BLOOD EXAMINATIONS IN THE DIAGNOSIS OF TRICHINOSIS.

Dr. H. C. Gordinier, Troy, reported in this paper two cases of trichinosis, coming under his observation, which served as additional confirmation of the value of the discovery made by Dr. Brown, Baltimore, that the enormous increase of eosinophiles in the blood is a valuable diagnostic aid in cases of trichinosis.

The following officers were elected: President, Dr. John A. Wyeth, New York City; vice-president, Dr. A. A. Hubbell, Buffalo; secretary, Dr. Frederick Holme Wiggin, New York City; treasurer, Dr. E. H. Squibb, Brooklyn; chairman of committee on legislation; Dr. Irving S. Haynes, New York City; chairman committee on legislation, Dr. E. Eliot Harris, New York City; chairman library committee, Dr. John W. S. Gouley, New York City: chairman committee on public health and medical charities, Dr. Stephen Smith, New York City; chairman committee on nominations, Dr. C. A. Wall, Buffalo; chairman committee on publications, Dr. James Hawley Burtenshaw, New York City. The foregoing constitute the Council of the Association for the ensuing year. The district presidents at present are as follows: First District, Dr. Charles B. Tefft, Utica; Second District, Dr. John T. Wheeler, Chatham, Third District, Dr. Theron A. Wales, Elmira; Fourth District, Dr. William H. Thornton, Buffalo; Fifth District, Dr. J. C. Bierwirth, Brooklyn.

Dr. C. A. L. Reed, president of The American Medical Association, was then introduced to the Association. He said: I thank you for your very cordial greeting, and I accept it as a fealty on your part to our great National Organization which I have the honor, for the time being, to represent. I have peculiar pleasure, however, in meeting you to-day because I discover in your charter, a copy of which has been placed in my hands by your efficient secretary, a proclamation of principles which appeals to me with peculiar force. The first there enumerated, the cultivation of our humane sciences and the promotion of the esprit de corps in our profession, are sufficient in themselves to commend this organization to the enthusiastic regard of every practitioner in this Empire State. Your provision for a death-benefit, which I understand is held under advisement, must, it seems to me, appeal to every one who has a sympathetic cord in his bosom and understands the mutability of fortune. It is the irony of experience that he who often needs succor is the Samaritan himself. This feature of your organization may well be emulated by every state society in the Union.

On this occasion, however, I find myself especially interested in the fourth plank in your platform—that plank which announces as one of your fundamental principles the promotion of harmony, or, as your charter itself says, "the furtherance of cordial professional relations and fellowship between the medical profession of the State of New York and the medical profession of other states of the United States and of foreign countries through the medical associations and societies of such states and countries."

Criticism of that clause must exhaust itself in commendation. It breathes the spirit of harmony, and the spirit of harmony is abroad in the profession, not alone in the State of New York but in the country over. This clause means the union of your noble profession. This clause means that every member of your state organization should become a member of The American Medical Association, and I am delighted to know that many already sustain that relation. This means, as it should mean, that you stand consecrated to an idea above other ideas—the idea of the unity and the solidarity of our great national profession. I know of no object more worthy of your zealous devotion. It simply means that this movement is one on your part that will command the cordial co-operation of the great national body of the profession—not only The American Medical Association, but the great independent body of the profession.

If you stop to think of that independent body you can appreciate its magnitude. Notwithstanding your splendid success in this body—unparallelled in the work of state organization in the United States—and notwithstanding the existence of another state organization in New York State, where the regular profession numbers ten thousand, there are but two thousand yet within the fold of organization. In the United States of America, with an aggregate regular profession of nearly one hundred thousand, there are but ten thousand enrolled in The American Medical Association. There is, therefore, much work in the direction of organization. The spirit is abroad in the land; it will brook no opposition. It is deeply grounded in the sentiment of the general profession, that to be effective at Albany, or Washington, or at the various state capitals, the profession must stand together, man to man and shoulder to shoulder. It ought to take but little time and less effort to accomplish a change that is already accomplished in sentiment. There is not much occasion for the rescinding of resolutions; there is not much occasion for the modification of by-laws or the amendment of constitutions. Possibly some memories may be well effaced, and some conventions that have honorably served their day but are now relatively meaningless. These are subsidiary matters which can well take care of themselves.

He who interposes prejudice, preference or prerogative as obstacles to this consummation is to be looked on and treated as the enemy of progress. I ask, and look confidently, for the cordial co-operation of this great and efficient organization in extending its influence all over the United States. From the remotest districts you will find coming back to you words of cheer, words of encouragement, words of co-operation. The medical profession to-day—and I have reason for the faith that is in me—the medical profession of to-day, the country over, is ready to taken any necessary step, through its organized bodies, that it may present a united front to the dawning century.

(To be continued.)

Chicago Medical Society.

October 10, 1900.

THE CLIMATIC CONDITIONS OF THE SOUTHWEST CORNER OF THE UNITED STATES.

Dr. **Norman Bridge** read the above paper. Climate is wholly a question of atmosphere. The atmosphere is the same everywhere with variations due mostly to local conditions. The variations may be classified under: 1, temperature; 2, moisture; 3, weight of air (barometric); 4, sunshine; and 5, contaminations as of gases, dust and microbes. These variations are due largely to the physical conditions of each region of the earth's surface; and as the latter differ more or less there are no two climates that are exactly alike. The most potent physical factors are: altitude—mountains—latitude, and large bodies of water.

Southern California is divided by a mountain range that, with the ocean, surrounds an irregular half-elliptical region, which has a climate wholly different from that of the desert lands north and east of the mountains. The climate of this coast-mountain region is determined by the three conditions named to a degree hardly found more marked, in any part of the world. The mountain range is four to five thousand feet high; the plateau of habitable land (from 1 to 50 miles wide) has an elevation from sea level to 1500 feet, and rising toward the foothills; the ocean is enormous and cold; and the latitude is nearly as far south as Cairo in Egypt.

As a result of all this the sun warms the land during the day, the air rises by its lightness, air cooled by flowing over the ocean rushes in to take its place all day, making an ocean breeze. The dry air of the mountains and plains causes rapid radiation of heat at nightfall, the stars are brighter there than in this part of the country by reason of the reduced humidity); the air becomes rapidly cooled in consequence, and first cools on the mountains; and by its weight flows down toward the sea most of the night producing a gentle breeze nearly every night, especially in summer. The result of these conditions is a mild, comfortable atmosphere nearly every day throughout the year. The exceptions are an occasional wind in autumn and rather uncomfortably high temperature in some of the more inland foot-hill regions a few days in summer. Without the peculiar arrangement of mountain and ocean with habitable land between, Southern California with its far south latitude, from being one of the most comfortable regions for a residence winter and summer in the world, would be a most uncomfortable one except in winter.

The desert region north and east of the mountains is very dry and very warm in the summer, although not uncomfortable in winter. Heavy rains fall irregularly, more often in the summer, but the air is usually very low in humidity and altogether the climate is totally different from that of the zone on the other side of the mountains.

The highlands of Arizona are arid and comfortable both winter and summer. The regions of low altitude, especially far south, are in summer too hot for comfort.

The statistics as to physical conditions of the southwest corner are interesting when compared with those of the east. The mean temperature of Southern California is higher than Chicago by about four degrees Fahrenheit in summer and thirty degrees in winter. The relative humidity is lower by 5 to 10 per cent., but the actual humidity is higher than in any region east of the mountains. The cloudiness is only two-thirds as much as that of the region about Chicago; the rainfall is a third or less than that of the Mississippi Valley.

One of the most remarkable atmospheric conditions is the slight range of the barometer; that of Los Angeles being only 14/100 of an inch, while that of Chicago is over 56/100.

The actual temperature of the whole southwest region ranges higher than the east by several degrees and most in summer, but the sensible temperature, that which is actually perceived by man, is seven and one-half degrees Fahrenheit less than that of the east. This is wholly due to the reduced relative humidity—the percentage below saturation.

Fogs abound in certain regions, especially nights and early mornings. They simply mean a sudden drop in temperature so that saturation is reached. The sunshine soon warms the air and redissolves the fog. As the chilling of the warm clear air is usually by a cold ocean current containing much less actual moisture, the mixed air of the fog usually has less water than the warm air did before; hence a curious paradox of wet cloths and dripping roofs with less absolute moisture than before the fog appeared. It is only a small part of the time that humidity is 100 per cent.

The physical discomforts incident to weather, of a continuous residence in Los Angeles, are about a quarter what they are in Chicago—yet people there growl at a disagreeable day. Thermic fever is practically unknown, as is hydrophobia, and in nine years there I have yet to see a case of lobar pneumonia, non-tubercular.

Southern California is the paradise of children and old people—the former thrive and have many fewer infantile diseases than here; the latter piece out their lives as they can not anywhere else in the world.

Of course, the greatest number of cases of disease migrating thither are of tuberculosis and many of these recover; so many that it strongly supports the theory that neither great altiude nor great dryness of air is of half as much value as the ability to live day and night in an outdoor atmosphere.

Many cases of chronic articular rheumatoid diseases find their way there and nearly all get better.

Cases of chronic bronchitis and asthma are nearly all more or less benefited.

THE FATE OF SPONGES, LIGATURES AND OTHER FOREIGN BODIES IN THE PERITONEAL CAVITY.

Dr. **Carl Beck**, after reviewing the literature on the subject, which covers experiments, as well as experiences during and after operations, adds two cases of sponges left in the abdominal cavity by him to the number already published. In one the sponge caused an abscess which opened into the incision. In the other, it was discharged through the bowel. He cites three typical cases of silk ligatures sloughing through into the bowel, the bladder, and uterine cavity. Such cases may puzzle the operator, especially as a number of the most pexplexing symptoms obscure the diagnosis. Serious consequences may follow the sloughing of sutures into hollow organs like the bladder, the lung, or even the intestine, but, as a rule, they are more marked by a tedious, protracted ailment of an indefinite character. Hemorrhage from the intestine is a very characteristic symptom, and led Dr. Beck to suspect in one case a forgotten sponge which was verified afterward by experience.

His conclusions are: 1, Silk ligatures are not as harmless as they are usually regarded. 2. Absorbable material should be preferred. 3. If unabsorbable material is used, small and interrupted sutures should be employed. 4. It takes less time for the interrupted one to slough out. 5. A way out is to be prepared if ligature suppuration is suspected. 6. Even catgut may cause such symptoms.

ELIMINATION OF THE INFLAMED,, GANGRENOUS, OR PERFORATED VERMIFORM APPENDIX FROM THE GENERAL CAVITY.

Dr. **A. J. Ochsner** points out the fact that the vermiform appendix is located in the peritoneal cavity in a spot bounded by relatively fixed areas on all except the inner side, and that on this side lie the exceedingly movable small intestines; also that the appendix is surrounded by the omentum as soon as it becomes inflamed or gangrenous, or in case a perforation is threatened. If this condition can be maintained throughout the attack it is plain that the appendix will be practically eliminated from the peritoneal cavity. Experience has shown that this condition of rest is disturbed only by peristaltic motion, and that this occurs only as a result of placing food or cathartics in the stomach. Consequently, if neither food nor cathartics are given by mouth this condition of rest will not be disturbed, unless there is present at the beginning of the attack an amount of food in the stomach. It happens frequently that an attack follows the taking of a large meal. In this case, the stomach should be irrigated and its contents removed.

This will stop the vomiting and will inhibit peristaltic motion.

The author advises the use of some concentrated, predigested food, diluted with normal salt solution, for the purpose of rectal alimentation, in quantities not to exceed four ounces at intervals of four hours. This treatment, which is continued until the patient has been free from symptoms for at least four days, will not protect the patient against a recurrence, nor against the very troublesome digestive disturbances due to the adhesions following appendicitis, but it will carry the patient safely over an acute attack changing what threatens to be a dangerous diffuse into a comparatively harmless circumscribed peritonitis; enabling the surgeon to select a favorable time for operation.

The paper contains a series of consecutive histories illustrating the plan of treatment and its results. In the author's hands this method has reduced the mortality in cases of inflamed, gangrenous or perforative appendicitis to one-fourth of that formerly experienced in his practice.

TWO INTERESTING CASES OF APPENDICITIS.

Dr. A. R. Small reported these mainly because of the peculiar position and investments of the appendix in both of them. He had not been able to find the report of a similar case in the voluminous literature of appendicitis, nor has he been able to find any one who has seen a similar case. The peculiarity in common in the two cases consisted in the location and investments of the appendix. The appendix was unusually long in both cases, being six inches long in one and five in the other. The appendix in both cases was turned backward and upward along the band of longitudinal fibers of the cecum and colon, and covered by the same peritoneal coat as the bowel, except in one case, one inch of the distal extremity, and in the other one-half inch. There was no mesentery in either case, but the appendix lay in intimate contact with the posterior surface of the bowel along the band of longitudinal fibers, and the peritoneal coat invested both the bowel and the appendix, so that it was almost impossible to discover the appendix except by its free distal extremity. This condition was not due in either case to inflammatory exudate and adhesions, but was evidently congenital. The author then narrated the two cases in detail.

The cases were interesting also on account of one being of so serious a nature, yet manifested mild symptoms; and the other from the fact of having had so many attacks without more serious results. In one the first attack would probably have been fatal without an operation; in the other there were many attacks without producing a fatal result.

Dr. Harold N. Moyer believes that the method outlined by Dr. Ochsner is based on correct scientific principles. While he has seen but a few cases of acute appendicitis, he has witnessed a large number of chronic ones. While he would condemn in unmeasured terms operation in the early stage, unless done very early, when these cases are rarely seen, in the acute stage, he would just as firmly and enthusiastically urge operation on all chronic cases. After the acute stage has passed the appendix should be removed.

Dr. William M. Harsha said that any method of treatment which would give only 8 cases of death out of 248 patients deserved more than a passing notice. However, he believes that the method of Dr. Ochsner is no more applicable to every case than any other method that has ever been devised. In cases of fulminating appendicitis in which perforation takes place, it requires a great stretch of the imagination to see how opium and starvation would limit the sepsis so as to make it safe for the patient without operation. He believes there are a number of cases of fulminating appendicitis which should be operated on as soon as the diagnosis is made.

Dr. Fenton B. Turck recommended colonic lavage, saying that by it the fecal matter could be removed without increasing the peristalsis of the entire alimentary tube, without overstretching the colon, and obtaining the heat stimulation necessary for the purpose of removing gases and lessening pain. After lavage of the colon it is much easier to make an accurate diagnosis.

Dr. William E. Schroeder referred to the medical statistics of appendicitis, saying that out of 7000 cases cited by one author no reference was made to complications. The complications are abscess of the liver, septic pleurisy and other forms of suppurative disease. He has seen three or four cases where the appendix was removed before perforation had taken place.

Dr. W. T. Eckley has seen only two cases where the appendix was esconced between the two layers of the mesocecum out of 400 appendices in cadavers during the last five years. In both the mesocecum was very short. The cecum was located high in the right iliac fossa.

Dr. J. N. Bartholomew, in operating on a case of appendicitis recently, found the appendix situated in the posterior part of the cecum. its lower half being covered with peritoneum. The appendix was eight inches long, and extended up in the direction of the liver. The end of the appendix, in which the abscess was situated, lay in close contact with the gall-bladder.

MYASTHENIA GRAVIS.

Dr. Sanger Brown reported a case. The patient was a teacher, with good family history. Nervous temperament. After having attended a social function several months previously, there was muscular exhaustion on slight exertion, so that it was with difficulty that she was able to move her arms and legs. Diplopia and ptosis became troublesome; the voice nasal and articulation imperfect. Occasionally there was humming in the ears and pains throughout the body, but the latter were infrequent and trivial. Mucous membranes of the mouth and nose were uncomfortably dry at times; hair and scalp very dry. Skin has remained in good condition. Appetite, digestion, sleep, etc., were satisfactory. Habitual constipation was somewhat aggravated. Very little mental depression existed. After a short walk there is not enough strength for the patient to cross her legs when sitting. Patient has lost fifteen pounds in weight since illness. Reflexes are lively, but normal; voluntary motion in every direction. No inco-ordination is present. Strength was greatly reduced. No suspicion existed of muscular atrophy or deformity; no pain or tenderness on pressure. There was no evidence of hysteria.

After detailing the other symptoms in this case, Dr. Brown referred to the literature of other cases and dwelt on the differential diagnosis between myasthenia gravis and hysteria, as well as other affections.

Dr. Henry B. Favill said he had seen one case which he believed could be designated as myasthenia gravis. The patient was 47 years of age. Toxic neurasthenia was one of the many manifestations occurring in a gouty family, and after a period of eighteen months the patient gradually recovered to the point of reasonable health and capacity. After a period of six months of good health the patient began to deteriorate and manifested in the course of the second year what he considered to be typical progressive bulbar paralysis, and he thought the patient would soon succumb. After going through a period of exaggerated symptoms the patient again apparently recovered, in that the typical signs of bulbar paralysis disappeared; she regained facility of speech, was able to swallow, vision was improved, etc., and yet in the course of the next nine months she developed a distinct myasthenia without ptosis, but more or less insufficiency of the ocular muscles, together with profound asthenia of the bodily muscles, so much so that when she fell on the floor, as in rocking, she was unable to get up. The patient was large. She went through this period of profound asthenia without dystrophy, without paralysis of any sort, without atrophy of any groups of muscles, and developed later, in the course of a year—and by this time the case covered a period of four years—a typical bulbar paralysis, and died finally of acute edema of the lungs.

Dr. Daniel R. Brower said that he had seen two cases in which he had made a diagnosis of myasthenia gravis, although he had been in the habit of calling the disease asthenic bulbar paralysis. In both of the cases the myasthenia began with the third, fifth and seventh nerves. followed by general debility of the whole muscular system, associated with slightly exaggerated patellar tendon reflexes that were easily exhausted. The electrical reactions were not determined. Muscular atrophy finally developed, the cranial nerves becoming involved, and the patient dying of bulbar paralysis.

The second case, which presented similar symptoms, recovered. In this case small doses of strychnia were used in conjunction with the constant galvanic current through the head, neck and spine.

Dr. Harold N. Moyer had seen one case which he believes could be included in this category, but the clinical course was more rapid, the time of onset of the affection until the death of the patient being about four months. There were two distinct remissions. The paralytic trouble and myasthenia, which were most marked, began in the lumbar portion of the cord instead of the upper part, ultimately affected the upper portion of the cord, involving the respiratory center and followed by death.

The Kings County Medical Association.

Stated Meeting, October 9, 1900.

President Dr. H. Arrowsmith in the chair.

THE BIO-CHEMICAL BASIS OF PATHOLOGY.

Dr. H. A. Bunker read a paper with this title. He said that in 1898 he had read a preliminary communication on this subject before another medical society. We must go back of structure and form for the origin of disease; in other words, nutritional disturbances and perversions must antedate changes of structure from the normal. In the normal cell, the nucleus resembles in every respect morphologically, and as far as known, chemically, all other cell nuclei. The same number of chromatin filaments persist throughout. If there is any distinguishable difference in the nuclei, we must look into the material built up by the cell protoplasm. We are obliged to assume the existence of a selective affinity in the cell protoplasm for certain nutritive substances. The solution of the problems involving growth, waste and repair must rest on the quality of the building material required, the character of the structure to be built, and the means for disposing of waste products. Reference was made to the well-known Pasteur's medium for the culture of yeast cells, and special attention was called to the fact that the sugar in this medium undergoes a molecular change as shown by the change in its behavior when subjected to polarized light. This change, the speaker said, he had observed under many other conditions, and he believed it contained a clue to the solution of some of the deepest problems in biology. As in the yeast cell, so in all organic life there was abundant reason for believing that none of the food stuffs is used in the body as such, but only after having been subjected to complex dehydration and oxidation processes. Fats and carbohydrates are stored for use in emergencies as required by the organism. The ultimate fate of fat in the body is its splitting up into carbonic acid and water with the production of heat and energy, whether physical or molecular. This process is a continuous one, and occurs throughout living proteid substances. The particular character of a structure seems to be dependent on the predominant niltrogenous or fatty acid or group of fatty acids. Volatile fatty acids are apparently those which have not been built into proteids. Fat probably has its origin in the synthetic activity of protoplasm. Very little is known of the methods by which the stored-up fat is drawn upon and assimilated by the system when the emergency arises. Lymphoid cells are notably active in all the processes of anabolism, and it is probable that these cells bring about the necessary changes in the stored up fat to render the latter suitable for assimilation. All the tissues are supplied with lymphatic vessels and glands and lymph spaces, hence it is probable that the waste of one organ serves to provide the raw material for another organ. The waste products of each tissue or organ need not be the end-products of the body at all, but certainly are the antecedents of these. The different forms of pathological degeneration would seem to depend on imperfect hydrolysis. The amido acids are never found combined with glycerin as are the free acids themselves. Aldehyde is always a cleavage product of proteid decomposition. Like glycerin, and its derivatives, the fatty acids, the amido acids, are never found free under normal conditions. The speaker thought he had found that in the fibrosis which occurs in the healing of tuberculosis, amido-succinic or sparteic acid is present. Certain recent experiments seem to show that in tuberculosis succinic acid plays an important part. Dr. Bunker expressed his belief in the existence of asymmetric forces at the moment of liberation of organic products. Under physiological conditions, lines of cleavage, synthetic re-arrangements and sucessive oxidations follow a well-defined and symmetrical sequence. If these are disturbed, the result is a pathological process. If after normal cleavage imperfect oxidation takes place, or if after imperfect cleavage normal oxidation takes place, morphological changes will take place. On these theoretical considerations must depend largely the therapeutics of the future.

Dr. Jacob Fuhs said that one could not possibly follow life processes in disease without searching for a better understanding of the physiological. These had been brought forward in the paper. It should be remembered that each living cell of an organism is undergoing a constant change, a change which is particularly active in the protoplasm. The nucleus must also participate in the nutritional change, this cell being, as it were, an organism by itself so far as nutrition is concerned. We had just been told that the cell was even able to appropriate for its ends the fat stored up around it. Again, certain cells seem to conspire to help other particular cells. His attention had been directed to this by a study of the visual purple. This substance is probably intended to protect the very sensitive structures of the eye and assist in accommodation—at least that is the statement in the latest text-book on physiology. To him this explanation did not seem plausible, as it was known that the visual purple disappears at the time when protection is most needed. To his mind it was more reasonable to suppose that this visual purple plays a role similar to that of the stored-up fat. In the aromatics was to be found a substance which disturbs the nutrition of the cell, and leads to the production of uric acid. For the last few years the view has been held that the defect lay in the nucleus rather than in the protoplasm. According to this theory, albumoids can be given in uric-acid diseases as long as they do not contain xanthin, and the quanity is moderate. By cooking meat with cereals the aromatics are not formed as freely as by the ordinary method of cooking. Such meat is comparatively insipid, but the dangerous extractives have been for the most part eliminated.

Dr. J. M. Van Cott said that while the nuclei of all cells are alike originally, this equality does not continue. In a recent article, Kassowitz had claimed that the chemical activities are not restricted to the nucleus or the body of the cell, and even claimed that the connective tissue is just as vital as the nucleus. The enzymes are thought to be different in their nature, depending on whether they are in the cell or in the nucleus or in the connective tissue. He heartily agreed with the reader of the paper that morphology must now give way to the still higher branches, physiological and pathological chemistry. That this is the case was well exemplified by common experience in the laboratory that certain standard stains act in one way with normal tissues and in a different way with those which are the seat of pathological processes.

Dr. Bunker, in closing, said that he had characterized the nucleus as a selective and determining factor, its activity taking place not only throughout the protoplasm, but throughout the fluids bathing the tissues and cells.

The Cincinnati Academy of Medicine.

Regular Meeting, Oct. 1, 1900.

President Dr. C. L. Bonifield in the chair.

Dr. R. B. Hall presented a specimen of multilocular fibroid tumor of the uterus, the greater part of one of the tumors of which had undergone calcification.

VERMIFORM APPENDIX ADHERED TO UTERUS.

Dr. A. W. Johnstone reported a case of a woman who had been afflicted with severe dragging pain on walking. This had annoyed her so greatly that she had herself demanded operation, though nothing could be found on examination to warrant operative interference. Section had disclosed an adherence of the end of the appendix to the uterus, and the former was put on the stretch with every movement of the body.

ETIOLOGY AND PATHOLOGY OF CARCINOMA.

Dr. Frank E. Fee stated that a lack of knowledge of the cause of cancer was the great obstacle to a proper cure; that it was thus rendered the most dreaded of all diseases. Not only was it greatly feared, but rightly so, as, according to Roswell Park's statistics, the disease was so rapidly increasing that if it continued at its present rate of rapidity in 1909 there would be more deaths from cancer in the State of New York than from tuberculosis, smallpox and typhoid fever combined. He then reviewed Cohnheim's theory of embryonic remains, but personally was inclined to reject it as not fitting all the facts, in other words, "not proven." The points of complicated development, the lips, tongue, pyloric and cardiac ends of the stomach, were also the parts of the economy subjected to the greatest irritation. He was inclined to accept a parasitic origin of the disease for the following reasons: Malignant growths present a close resemblance to certain of the infectious diseases—such as tuberculosis—in their obscure origin, tendency to spread locally, and dissemination by lymph and blood paths; the occurrence of secondary deposits in various parts of the body; that they often follow an injury or blow, or at the site of an old cicatrix, that is to say, a point where physiological resistance is below par; the existence of a toxemia, as shown by fever and cachexia, and often out of proportion to the size and situation of the tumor.

He called attention to the recent investigations in England, in which certain portions of the country had been mapped out where cancer was particularly present; these were known as cancer fields, and were usually situated in the low lands, on the banks of sluggish streams, as well as those subjected to frequent floods. This observation, he thought, might at some future time, be of considerable value. The essayist then described at some length the announcement of alleged discoveries of a parasite of cancer and laid particular stress on the reports of the New York Laboratory. Then followed a description of the parasite and the various methods of fixing and staining according to his own observations and those of Plimmer. Experiments in cultivating the parasite have not been entirely satisfactory. Both Plimmer, of England, and Park, of New York, claim to have succeeded. Their cultures inoculated into guinea-pigs produced death in from fifteen to twenty days. The peritoneum, into which the cultures were injected, was found studded with small transparent nodules, as were most of the other internal organs. Microscopically they were of endothelial origin. The cells were found to contain the organism. The production of cancer has not been satisfactory when these organisms have been brought into contact with epithelial surfaces. To cultivate the organism cultures of ordinary beef infusion are made to which is added after careful neutralization 2 per cent. of glucose and 1 per cent. of tartaric acid. Into this very small pieces of the growth, cut with all possible precautions against contamination, were placed, and the tubes put immediately under anaerobic precautions, the air being exhausted and hydrogen substituted for it. In conclusion the essayist stated "At present I am not prepared to state fully the results of my investigations in this line, but will say that I have only twice failed to find these bodies described, and that I have never found them in any other tissue than cancerous. I have always failed in cultivating the parasite to my own satisfaction. While I agree that the parasitic theory of cancer can not be accepted until it is unmistakably proved that a malignant growth can be produced by an organism isolated from a cancer, it is to be hoped that work in this line will be continued so that collective investigation can be well established. It is my intention to bring this subject before the Academy in the near future, and I hope to at least assist to establish the claims made by other observers in regard to cultivation and inoculation.

The paper was discussed by Drs. A. Friedlander, J. Ransohoff, Joseph Eichberg, A. Freiberg and A. W. Johnstone.

EARLY DIAGNOSIS OF CANCER OF THE UTERUS.

Dr. John P. Miller stated that the principal symptoms were hemorrhage, pain, discharge and cachexia; that hemorrhage was the first symptom to present itself. It usually attracts attention in a woman who has been menstrating normally as a slight show of blood, occurring after violent exercise, a severe jar, or especially after coitus, rather than as an increase in frequency or profuseness of the menstrual flow. In women who have ceased menstruating the reappearance of the flow may lead them to the belief that this function is being reestablished. It is unfortunate that the hemorrhage is not more severe in the early stages, as in this case the woman would be more likely to consult her physician, and her condition be diagnosed while yet in a comparatively early stage. The hemorrhage which first occurs in cancer of the uterus, like the early hemorrhage produced by fibroid comes from the accompanying hypertrophic endometritis, and not as the result of ulceration. Pain is the next symptom to manifest itself, but it does not become prominent until the disease has made considerable headway. The severe pains we are accustomed to associate with carcinoma uteri are produced by the efforts of the uterus to expel clotted blood and detritus, by involvement of the peritoneum and by pressure on the nerves of the pelvis, conditions that do not exist in the early stages of the disease. Pain, as a rule, manifests itself in the sacral or lumbar region. It usually differs in no way from that produced by other uterine disease, but occasionally occurs in paroxysms at certain times of the day, and this paroxysmal pain is a diagnostic symptom of some importance when present. Early in the disease the discharge is leucorrheal, of endometrial origin, and not distinctive; later it becomes thin, watery, irritating and fetid. Cachexia, as a rule, is the last of these cardinal symptoms to appear. The essayist then called attention to the value of the microscope in the early diagnosis of the disease.

He stated that carcinoma uteri usually took its origin from one of three places: The portio, the cervical canal and the body of the uterus. Carcinoma of the portio is either of the pavement epithelial variety or the cylindrical-celled variety, and has to be differentiated from decubitus ulcer, erosion, tuberculosis, chancre and chancroid. An elaborate table for the differentiation of these diseases followed. Cancer of the cervical canal is the most frequent of all cancers of the uterus. The varieties are the same as in cancer of the portio, but more frequently cylindrical. Cancer of the body of the uterus is the least frequent of uterine cancers, and develops either from the epithelium of the glands in the mucous membrane or from the epithelium between the glands.

Microscopically we can distinguish three forms of cancer in the body of the uterus, the malignant adenoma, the adenocarcinoma and the simple carcinoma. The essayist then reported a case that had presented itself at his clinic last winter. The patient was 32 years of age, the mother of several children, stout and well-nourished; complained of pain in the back, leucorrhea and excessive menstruation. On examination, the cervix was found normal, the uterus itself somewhat enlarged, freely movable, but could not be freely palpated on account of the thick abdominal wall. She was sent to the Good Samaritan Hospital and curettage performed. Microscopical examination showed the scrapings to be from an adenomacarcinoma (a specimen was shown under the microscope by the essayist). A subsequent hysterectomy showed a cancer about the size of a ten-cent piece situated on the posterior wall of the uterus. Cancer of the body of the uterus is to be differentiated from hypertrophic endometritis with enlargement of the uterus, from subinvolution, from sloughing fibroid and from retained products of conception.

The paper was discussed by Drs. R. B. Hall, C. D. Palmer, S. P. Kramer, Whittacre and Brown.

Therapeutics.

To Abort Pneumonia.

℞.	Acetanilidi	ʒi	4	
	Pulv. opii et ipecacuanhæ	gr. xxxvi	2	40

M. Ft. chartulæ No. xii. Sig. One powder every four hours, day and night.

J. Paffrath, in *Deutsche Med. Zeit.*, states that he has never failed to abort the beginning of pneumonia in from five to six days with the above treatment. He goes on the basis that pneumonia is not of bacterial origin. He orders the powders stopped as soon as the temperature drops.

Epileptiform Convulsions Due to Autointoxication.

R.	Ext. chiratæ	gr. ii		12
	Leptandrin	gr. ss		03
	Podophyllin	gr. 1/5		012
	Creosoti (beechwood)			
	Euonymin, āā	gr. ss		03

M. Ft. pil. No. i. Sig. *One such after each meal.*

—Hare: *Medical Record.*

Urticaria.

℞.	Ethylis alcoholis			
	Etheris sulphurici			
	Chloroformis, āā	℥i	32	
	Mentholis	gr. ii		12

M. Sig. Apply as a lotion. —Gaucher: *Med. Record.*

Seminal Emissions With Erections.

℞.	Strychninæ sulphatis	gr. i		06
	Acidi phosphorici diluti	℥ii	64	

M. Sig. Twenty-five drops in water after each meal.

—B. K. Twitchell.

Blueberry in Intestinal Inflammations.

℞.	Ext. myrtillus berries	℥i	32
	Potassii carbonatis	gr. xlv	3
	Aquæ destil	ʒiss	6
	Cacao butter	℥ii	64

M. Ft. suppos. No. xxx. Sig. Two to be used daily.

Dr. H. Strauss, in *N. Y. Med Jour.*, recommends this combination as an astringent in intestinal inflammations.

Amenorrhea.

℞.	Strychninæ sulphatis	gr. iss		1
	Acidi oxalici	gr. viiss		5
	Ferri peptonatis			
	Manganese lactatis, āā	ʒii	8	
	Ext. colocynthidis comp	gr. xxx	2	

M. Ft. capsulæ No. lx. Sig. One capsule three times a day, after meals. —H. C. Bloom.

Hemorrhoids With Pain.

℞.	Morphinæ sulphatis	gr. vi		4
	Cocainæ muriatis	gr. xii		75
	Hydrargyri chloridi mitis	gr. xl	2	66
	Vaselini	℥i	32	

M. Sig. Apply locally night and morning.

Sawyer states that this combination is the best local application that can be made when pain is present. If itching is present, or in cases of pruritis, he recommends:

℞.	Menthol	ʒss to ʒi	2-4
	Vaselini	℥i	32

M. For local application, night and morning.

Cough of Influenza.

℞.	Sodii benzoatis	ʒi	4	
	Bromoformi	m. x		66
	Syrupi tolutani	℥i	32	
	Syrupi lactucarii	℥iii	96	

M. Sig. One tablespoonful every four hours.

—Le Moine: *Bul. of Ther.*

Ringworm.

℞.	Epicarin		
	Talci veneti		
	Amyli, āā	ʒi	4
	Vaselini	ʒiii	12

M. Ft. unguentum. Sig. For external use.

—*Jour. de Méd. de Bordeaux.*

Anaphrodisiac.

℞.	Lupulini	ʒiiss	10

Ft. capsulæ No. xv. Sig. One capsule at bedtime.

—*Med. Times and Gazette.*

Dental Caries.

℞.	Acidi carbolici		
	Essentiæ limonis, āā	ʒi	4
	Alcoholis	ʒv	20

M. Sig. Wash and dry the cavity; soak a small pledget of cotton in this solution and insert into the tooth cavity and cover with tincture of benzoin on cotton.

—*Gaillard's Med. Journal.*

Malarial Cachexia.

℞.	Quininæ sulphatis	ʒi	4
	Tinct. ferri chloridi	ʒv	20
	Liquoris acidi arsenosi	ʒiss	6
	Potassii chloratis	ʒi	4
	Syrupi zingiberis, q. s. ad	℥iv	128

M. Sig. One teaspoonful, in water, three times a day.

—Dr. Guice: *Med. Fortnightly.*

Acute Nephritis in Children.

℞.	Tinct. aconiti	ʒss	2	
	Codeinæ	gr. ii		12
	Potassii citratis	℥iii	96	
	Glycerini	℥ii	64	
	Aquæ cinnamomi, q. s. ad	℥viii	256	

M. Sig. One teaspoonful every two hours in half a glass of pure water.

—Danforth: *Amer. Text-Book of Dis. of Children.*

Acute Catarrhal Laryngitis in Children.

℞.	Tinct. aconiti	gtt. viiss		5
	Sodii benzoatis	ʒss	2	
	Cherry laurel water	ʒiiss	10	
	Syrupi codeinæ—gr. 1 per ℥	ʒii	8	
	Syrupi aurantii	ʒv	20	
	Mucilaginis acaciæ, q. s. ad	℥iv	128	

M. Sig. One to two teaspoonfuls every hour, according to the age. —Perier: *Pediatrics.*

Irritability of the Bladder After Delivery.

℞.	Salol		
	Tinct. hyoscyami, āā	ʒii	8
	Infusi buchu, q. s. ad	℥vi	192

M. Sig. Shake. One teaspoonful three times a day.

℞.	Liquoris potassæ	ʒi	4
	Mucilaginis acaciæ	℥ss	16
	Tinct. hyoscyami, q. s. ad	℥ii	64

M. Sig. One teaspoonful three times a day.—Fothergill.

Constipation in Children.

℞.	Sodii bicarbonatis	ʒiii	12	
	Pulveris rhei	℥ii	64	
	Sodii sulphatis	℥i	32	
	Olei menthæ piperitæ	gtt. xx	1	33

M. Sig. One-half to one teaspoonful of this powder may be given in the morning before breakfast.

℞.	Mannæ	℥i	32
	Magnesiæ—calcined		
	Sulphuris sublimati, āā	℥ii	64
	Mellis	℥i	32

M. Sig. From a teaspoonful to a tablespoonful dissolved in a cup of hot milk, night and morning. —*Jour. des Prac.*

To Lessen Labor Pains.

R.	Lactis	fl℥i	32
	Chloralis hydratis	gr. xxx	2
	Aquæ destil	℥i	32

M. Sig. To be used as an enema during the first stage of labor. —*Monthly Encyc. of Med.*

Early Cough and Fever in Pneumonia.

℞.	Potassii citratis	ʒvi	24
	Spts. etheris nitrosi		
	Tinct. opii camphoratæ, āā	ʒiv	16
	Liq. potassii citratis, q. s. ad	℥vi	192

M. Sig. One dessertspoonful every three hours.

—Hughes: *St. Louis Clinique.*

Acute Pharyngitis.

℞.	Tinct. aconiti	m. vi		36
	Sodii salicylatis	ʒii	8	
	Aquæ menthæ viridis	℥iii	96	

M. Sig. One teaspoonful, undiluted, every hour.

Of use in acute pharyngitis with moderate fever.

To Keep the Hands in Good Condition.

℞.	Olei rosæ	m. xv	1	
	Glycerini	ʒi	4	
	Spts. myricæ	ʒiii	12	
	Olei cajuputi	m. xx	1	33

M. Sig. Apply to the hands before retiring, first washing them thoroughly in hot water. —*Calif. Med. Journal.*

Phosphaturia.

℞.	Ammonii benzoatis	ʒiv	16	

Place in cachets No. xxiv. Sig. One cachet after meals.

Indications—In phosphaturia with ammoniacal urine.

—*Dominion Med. Monthly.*

Expectorant Mixture.

℞.	Ammonii chloridi	ʒi	4	
	Potassii chloratis	gr. xxiv	1	66
	Ext. glycyrrhizæ	gr. xxx	2	
	Spts. etheris nitrosi			
	Syrupi seneg, āā	ʒii	8	
	Aquæ cinnamomi, q. s. ad	℥ii	64	

M. Sig. One teaspoonful every four hours.

—*Druggist and Review.*

Gonorrheal Epididymitis.

℞.	Methyl salicylatis	℥i	32	
	Olei olivæ	℥ii	64	

M. Sig. Apply to the scrotum and protect by gutta percha paper and a suspensory bandage.

Bettman advocates the above treatment and advises the change of dressings every two hours. That the salicylate is absorbed is proved by the urine. —*Med. Age.*

Ocular Neuralgia.

℞.	Morphinæ sulphatis	gr. iv		25
	Chloralis hydratis	gr. x		66
	Cocainæ hydrochlor.	gr. xx	1	33
	Menthol	gr. xxx	2	
	Lanolin	℥i	32	

M. Sig. Apply a piece the size of a hazel-nut to the temple and over the brow every hour until relieved. —Fox.

Nasal Obstruction in the Newborn.

℞.	Resorcin	gr. xv	1	
	Olei vaselini	℥iss	48	

M. Sig. Drop three or four drops into the nares three or four times a day.

Or,

℞.	Sodii biboratis	ʒiss	6	
	Glycerini	℥i	32	

M. Sig. Hold the head well back and allow three or four drops to enter the nares on either side and repeat two or three times during the day.

M. Leopold Cheauveau states that when acute coryza is the cause of nasal obstruction in the newborn he has found the above to be very efficient. —*Practitioner.*

To Prevent Loosening of the Teeth.

℞.	Acidi tannici	ʒii	8	
	Tinct. iodi	ʒi	4	
	Potassii iodidi	gr. xv	1	
	Tinct. myrrhæ	m. lxxx	5	33
	Aquæ rosæ	℥vi	192	

M. Sig. A teaspoonful in water to rinse the mouth every two hours. —*Practitioner.*

Taenifuge.

℞.	Acidi salicylici	gr. viss		4
	Oleoresinæ aspidii	gr. x		66
	Olei cinnamomi	m. x		66
	Gum arabici	ʒii	8	
	Aquæ	℥ii	64	
	Syrupi simplicis, q. s.	℥iii	96	

M. Sig. To be taken in two doses before breakfast.

—*Phar. Post.*

Cleansing of Teeth.

℞.	Pulveris cereal	ʒiiss	10	
	Sodii boratis	gr. xxxvi	2	4
	Potassii chloratis	gr. xv	1	

M. Flavor with orris and menthol. Sig. For cleaning teeth.

Dr. Fletcher, in the *Cincinnati Lancet-Clinic*, states that the object is to keep the saliva decidedly alkaline for some time after using and to counteract the ill effects of sweets. It is preservative and antiseptic and will retard decay.

Anemia With Dysmenorrhea and Constipation.

℞.	Ferratini	ʒii	8	
	Pulv. rhei radicis	ʒiv	16	
	Sodii bicarb.	ʒii	8	
	Ol. fœniculi	gtt. xxx	2	

M. Sig. Take a teaspoonful at night, in a wafer or dry on the tongue, and wash down with water. —*Med. Fortnightly.*

Ferratin is an organic compound of iron made from the liver of the hog.

Medicolegal.

May Refresh Memory on Question of Age.—The Supreme Court of California holds, in People vs. Vann, a prosecution for an assault with intent to commit rape on a female under the age of consent, that, where a physician was called as a witness and stated that he attended the mother of the girl at the time of the latter's birth, it was proper to allow him to refresh his memory as to the date of her birth, so as to show her age at the time of the alleged assault, by an entry in his cash book, he having testified that he made the entry at the time he attended the mother at the birth of the girl, and that by the entry he knew the date of her birth.

Number of Expert Witnesses Not Controlling.—Numbers in experts, the second appellate division of the Supreme Court of New York declares, in the same of Simonsen vs. the Brooklyn Heights Railroad Company, are not more controlling than numbers in ordinary witnesses. Where they advance two opposing theories, it is the function of the jury it says to decide between them. Nor is it concerned here about whether the jury thought that the opinions of the plaintiff's physicians were colored by professional partisanship, or were unfounded on the facts, or were exaggerated, or were those of alarmists, and that the opinion of the opposing physician was the wisest or was more warranted by the facts. There was conflicting evidence and there was clash of opinion, and the court holds that it was not called upon to upset the result by the test that, if it had been sitting as a jury, it would have returned a different verdict.

A Large Award for Injuries to Boy.—A boy 11 years of age, who lived with his widowed mother and was attending a public school in the neighborhood of her residence, was run over by a street car. He was so badly injured by the accident that he was compelled to suffer two amputations—the first, removing the lower portion of the left leg at a point about three inches below the knee-joint, and the second operation destroying the knee-joint and all below it. An action for damages followed, which resulted in a verdict for $22,500. Complaint was made that this was excessive, but the second appellate division of the Supreme Court of New York holds otherwise, Williamson vs. Brooklyn Heights Railroad Company. In support of this, it says that it is manifest that the pain resulting from the injury and following the two amputations was extreme, and that the permanent disability arising from the loss of his leg will put the boy at a serious disadvantage, physically, when he arrives at manhood and enters into the competition of life. Besides, it says, as large verdicts as this for similar injuries to children have in some other cases been sustained.

Between Buyer and Seller of Medical Practice.—A physician contracted to deliver certain real estate and the good-will of his business, so far as such good-will could be delivered. To better accomplish this latter object, he agreed to form with the purchaser a partnership for a stated period, to introduce him to his patrons, to send him to answer all calls possible, and to himself attend such cases as he might be personally insisted on attending. Now, these obligations of the seller, as to the real estate and the good-will, the Supreme Court of Illinois holds, case of Tichenor vs. Newman, were personal to the purchaser, and their non-performance vested a right of action in him. Consequently, he could sue, in an action at law, for a breach of contract, and need not resort to a court of equity for an accounting under the general rule that one partner can not sue another at law except for a balance struck and a promise to pay. Likewise, the seller having guaranteed that the earnings of the co-partnership would reach a specified sum, the court holds that guaranty enforceable in an action at law, and without any investigation of the state of accounts between the two as partners. But the purchaser, it holds, must allege compliance on his part with the obligations of the contract, or allege facts excusing such performance. And, the agreement making it incumbent on the purchaser to use his best efforts to promote the interests of the partnership, and the undertaking of the seller to guaranty that the earnings and receipts of the firm were injuriously affected, was competent based in part on compliance on the part of the purchaser with this agreement of his, the court holds that evidence tending to show that the purchaser did not use his best efforts to promote the interests of the partnership, or that he engaged in the transaction of other business, whereby the earnings and receipts of the firm were injuriously affected, was competent to be considered. Moreover, the court holds that the purchaser could not be permitted to testify to conversations which, as he alleged, occurred between himself and the seller prior to the execution of the contract as to the value of the practice of the seller, because all prior statements were merged, as it were, in the writing, and the guaranty incorporated therein became the measure of the liability of the seller with respect to the value of such medical practice. The court also holds that it was not essential to the right of the purchaser to maintain his action for breach of contract that he should affirmatively show that he held a license from the State Board [illegible] Health authorizing him to practice medicine and surgery [illegible] the state, because the relation of physician and patient did [illegible] exist between the parties, and the action was not for the recovery of the fees or the charges of a physician.

Classification of Consumption.—The Michigan statute involved in the case of People vs. Shurly requires that, "whenever any physician shall know that any person whom he is called to visit, or who is brought to him for examination, is infected with smallpox, cholera, diphtheria, scarlet fever, or any other disease dangerous to the public health, he shall give immediate notice thereof to the health officer of the township, city or village in which such person may be; and to the householder, hotel-keeper, keeper of a boarding-house, or tenant within whose house or room the sick person may be," etc. To recover the penalty prescribed for a violation of this provision this action was brought. On the trial it was agreed by counsel for the respective parties that the only question in the case was whether consumption was covered by this provision. The circuit judge ruled, for the purposes of the case, that the statute was not intended to cover consumption, and ruled out testimony offered to show that consumption is a disease dangerous to public health. The Supreme Court of Michigan holds that this was error, reverses the judgment of the lower court, and orders a new trial. The position of the defendant's counsel, as stated in his brief, was that the general clause, "or any other disease dangerous to the public health," was intended to include other diseases of the same degree of infectiousness or danger to life, though not specifically naming them; that the general clause would include yellow fever, leprosy, bubonic plague, and typhus fever. For, he said, it is common knowledge that those diseases partake of the same violent degree of infectiousness as those mentioned in the statute. And the supreme court says that the rule was correctly stated that where a statute, after enumerating specific cases, uses a general term to cover others, the latter are understood to be of the same general character, sort, or kind as those specified. But, while it recognizes this rule, it says that it did not determine this case, for the reason that, if consumption is a disease dangerous to the public health, it is of the same general character, sort, or kind as those specifically enumerated in the sense in which the legislature characterized those diseases, i. e., diseases dangerous to the public health. If there was a distinct dividing line of danger, of which courts might take judicial notice, a different view, it suggests, might be held, but there is, it declares, no such line. The court cannot judicially know what are the varying degrees of infectiousness of different diseases. There is no line which can be drawn other than the line between diseases dangerous to the public health and those which are not. Wherefore, it holds that the question raised in this case of whether consumption is a disease dangerous to the public health was to be determined on evidence, and should have been submitted to the jury. Because this was not done, there must, it holds, be a new trial.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

New York Medical Journal, October 13.

1 Hypertrophy of the Turbinated Bodies, and Their Relation to Inflammation of the Middle Ear, with Report of Fifteen Hundred Operations. (Continued.) Christian R. Holmes.
2 Dilatation of the Colon. H. G. Marxmiller.
3 *On the Employment of the Upright Position in Ether Operations Upon the Nose, Throat and Ear, Thomas B. French.
4 *The Present State of Our Knowledge Concerning the Cause, Nature, and Treatment of Asthma. (To be Concluded.) Walter A. Wells.
5 The Future of Specialties. Charles B. Kelsey.
6 *The Etiology of Pulmonary Tuberculosis, Its Cause and Termination. S. A. Knopf.

Philadelphia Medical Journal, October 13.

7 General Summary of the Cases of Typhoid Fever Treated in the Johns Hopkins Hospital for Ten Years. William Osler.
8 *A Review of the History of Cardiac Pathology, with Especial Reference to Modern Conceptions of Myocardial Disease. Alfred Stengel.
9 *Fracture of the Carpus. G. G. Ross and M. I. Wilbert.
10 *Some Phases of the Tuberculosis Problem in Colorado. S. G. Bonney.
11 Rupture of Symphysis Pubis During Parturition, with Report of Case. G. A. Himmelsbach.
12 *Concerning Calentura. Frank W. Foxworthy.
13 Appendicitis: Pin in Appendix—Abscess of Liver—Purulent Peritonitis—Death. E. H. Trowbridge.

Boston Medical and Surgical Journal, October 11.

14 Modification of Milk in Milk Laboratories. T. M. Rotch.
15 Breast Feeding. A. Worcester.
16 *Home Modification of Milk. Charles W. Townsend.
17 Lesion of Chiasm; Temporal Hemiopia. Optic Atrophy; Probable Pituitary Tumor, with Giantism and Defective Development (Preliminary Report). S. A. Lord.

Medical News (N. Y.), October 13.

18 Cocain Anesthesia by Lumbar Puncture: Two Cases of Hysterectomy. J. Riddle Goffe.
19 *A Consideration of Finger Infection with Special Reference to the Joints and Tendons Ellsworth Eliot, Jr.
20 *The Prevention and Treatment of "Colds." W. Scheppegrell.
21 *Treatment of Rheumatism and Some Phases of Indigestion; Gouty Diathesis. Charles E. Page.

Medical Record (N. Y.), October 13.

22 *Medullary Narcosis (Corning's Method): Its History and Development. L. Marcus.
23 *The Modern Treatment of Pulmonary Tuberculosis. M. J. Brooks.
24 *A Consideration of the Anatomical Construction Predisposing to Inguinal and Femoral Herniæ, and the Measures to be Taken in Securing their Radical Cure. Irving S. Haynes.
25 *Light as a Remedial Agent. J. W. Kime.

Cincinnati Lancet-Clinic, October 13.

26 *The Curability of Inebriety by Medical Treatment. T. D. Crothers.
27 Formaldehyde as Represented by the Preparation Known as Cystogen in Genito-Urinary Diseases. Henry J. Scherck.

St. Louis Medical Review, October 13.

28 *The Curability of Inebriety by Medical Treatment. T. D. Crothers.
29 Subarachnoidean Injection of Cocain as a Substitute for General Anesthesia in All Operations Below the Diaphragm. Edward Wallace Lee.

American Practitioner and News (Louisville, Ky.), October 1.

30 Iritis: Causation, Diagnosis, Prognosis and Treatment. M. E. Coomès.
31 The Use of Normal Salt Solution in Medicine and Surgery. Ed. Smith.
32 Gunshot Wound of the Abdomen. J. V. Prewitt.
33 Famous Physicians of the Past in Louisville. T. B. Greenley.

Virginia Medical Semi-Monthly, September 21.

34 The Physician's Influence in Revaccination in Schools. Helen C. Putnam.
35 The Late Drs. L. A. Sayre and Hunter McGuire. A. M. Phelps.
36 The Physician's Home—Why Needed and Why Worthy. Jno. S. Harris.
37 *The Diagnosis of Ectopic Pregnancy Before Rupture, Based on Eleven Cases. J. F. Baldwin.

Medical Age (Detroit), October 10.

38 *Formaldehyde as a Milk Preservative. A. G. Young.
39 Neurasthenia; with Report of Cases. F. S. Smith.

Illinois Medical Journal, October.

40 Rectal Fistula. A. E. Halstead.
41 *Nephritis with Report of Three Cases. J. W. Kelly.
42 *Chronic Gastritis. Jas. Brayshaw.
43 Sterility in the Male. Emil Ries.
44 The Spanish-American War as Seen by the Military Surgeon. Allen A. Wesley.

Medicine (Detroit), October.

45 *Some General Considerations in the Treatment of Hysteria and Neurasthenia. B. C. Loveland.
46 *An Etiological and Clinical Consideration of Graves' Disease (Exophthalmic Goiter). Frank P. Norbury.
47 Examination of the Stomach Contents. F. A. McGrew.
48 *Longevity of the Literary Female. E. C. Spitzka.

Pennsylvania Medical Journal, October.

49 Address before the Medical Society of the State of Pennsylvania. George W. Guthrie.
50 Address in Medicine. Thomas Turnbull, Jr.
51 Medical Education. Edmund W. Holmes.
52 A Case of Jamaica Ginger Amblyopia. Edward Stieren.
53 Diarrheal Affections of the Summer Season. F. C. Stahlman.
54 On the Relation of Diseases of the Eye to those of the Teeth N. J. Weill.
55 Bright's Disease. B. F. Brubaker.

Ophthalmic Record (Chicago), September.

56 *The Prenatal Degeneracy of the Eye. Lee Wallace Dean.
57 Chip of Iron in Eye. Examination with Fluoroscope Negative, With Sideroscope Positive, Eye Enucleation. Sympathetic Ophthalmitis Sixteen Days Later. Recovery. Exhibition of Sideroscope. Wm. C. Bane.
58 Total Ciliectomy. M. F. Weymann.

Journal of Cutaneous and Genito-Urinary Diseases (N. Y.), October.

59. *The Etiology and Pathology of Malignant Diseases of the Skin Affecting the Epithelial Tissues. M. B. Hartzell.
60 *Recurrent Epididymitis. Charles H. Chetwood.
61 *The Treatment of Malignant Diseases of the Skin. Francis Shepherd.

Journal of Experimental Medicine (N. Y.), October 1.

62 *Poliferation and Phagocytosis. F. B. Mallory.
63 A Contribution to Staining Methods. F. B. Mallory.
64 *A Study of the Neurofibrils in the Ganglion Cells of the Cerebral Cortex. Stewart Paton.
65. *An Experimental Study of Oxaluria, with Special Reference to Its Fermentative Origin. Helen Baldwin.
66 *Serum-Globulin and Diphtheritic Antitoxin—A Comparative Study of the Amount of Globulin in Normal and Antitoxic Sera, and the Relation of the Globulins to the Antitoxic Bodies. Philip M. Hiss, Jr., and James P. Atkinson.
67. *The Fractional Precipitation of the Globulin and Albumin of Normal Horse's Serum and Diphtheria Antitoxic Serum, and the Antitoxic Strength of the Precipitates. James P. Atkinson.
68. *Refractory Subcutaneous Abscesses Caused by Sporothrix Schenckii. A New Pathogenic Fungus. Ludvig Hektoen and C. F. Perkins.
69 Pathologic Report of a Case of Dermatitis Vesiculo-Bullosa et Gangrenosa Mutilans Manuum (Duhrung), With a Consideration of the Relations of Vascular and Nervous Changes to Spontaneous Gangrene and Raynaud's Disease. William G. Spiller.

New Yorker Medicinische Monatschrift, September.

70. Trophische Storungen bei Lungentuberculose; ein Beitrag zur Symptomatologie dieser Erkrankung. Henry Herbert.

Occidental Medical Times (San Francisco), October.

71 The Diagnosis of Empyema of the Accessory Nasal Cavities. Robert D. Cohn.
72 Clinical Lecture—Plague. Wm. Watt Kerr.
73 Two Cases of Myotonia, or Thomsens' Disease, Occurring in the Same Family. Jno. T. Jones.
74 Glomerular Nephritis With Membranous Vulvitis—Postmortem Findings. Elizabeth E. Keys.
75 The Treatment of Pneumonia. Edward N. Ewer.
76 Some Experiences of a Volunteer Surgeon in the U. S. Army. W. J. Hanna.
77 The Treatment of Pulmonary Tuberculosis. G. W. Fuller.

American Journal of the Medical Sciences (Philadelphia), October.

78 *Primary Splenomegaly—Endothelial Hyperplasia of the Spleen—Two Cases in Children—Autopsy and Morphologic Examination in One. David Bovaird, Jr.
79 *Primary Echinococcus Casts of the Pleura. Charles Cary and Irving P. Lyon.
80 Sarcoma and Cirrhosis of the Liver. W. W. Ford.
81 Report of a Case of Melena Neonatorum Due Apparently to an Infection by the Bacillus Pyocyaneus. William R. Nicholson, Jr.
82 Distortion of the Aorta in Pott's Disease. Thomas Dwight.
83 *The Value of the Pedicled Flaps in Injuries of the Hand. W. E. Schroeder.
84 *Internal Hydrocephalus Following Cerebrospinal Meningitis. Elliott P. Joslin.
85 A Critical Summary of the Literature on the Diagnostic and Therapeutic Value of Lumbar Puncture. Alfred Hand, Jr.

Kansas City Medical Record, September.

86 Smallpox. E. E. Gilmore.
87 A Study of the Diagnosis and Pathology of Tabes Dorsalis in Synopsis. S. Grove Burnett.
88 Posterior Cortical Cataract. Hugh Miller.
89 A Familiar Clinical Picture. Milton P. Creel.

Brooklyn Medical Journal, October.

90 *Observations on the Obstetric Surgery of Pelvic Contraction. Chas. Jewett.
91 The Medical Faculty as Factors in History—An Address Given April 17, 1900. Homer L. Bartlett.

Indiana Medical Journal, October.

92 Medical Practice in Relation to the Law. J. B. Kenner.
93 Notes from the Pathologic Laboratory of the Central Indiana Hospital for the Insane. John S. Briggs, Jr.
94 Abscess of Brain Without History of Symptom Before Entrance to Hospital. Walker Schell.

St. Louis Courier of Medicine, September.

95 *Contribution to Our Knowledge of Hemolysins. C. Fisch.
96 The Bladder as a Cause of Dystocia. Armand Derivaux.
97 Report of a Case of Purpura Rheumatica. M. A. Bliss.
98 The Use of the Angiotribe; Or, The Removal of the Uterus and the Appendages Without Ligatures. C. R. Dudley.
99 Coxa Vara. J. A. Steele.

Toledo Medical and Surgical Reporter, October.

100 Report of a Case of Spasmodic Asthma and Bronchitis. David P. Jackson.
101 Reflex Neurosis from Disturbed Visceral Mechanism. The Dominating Influence of the Genitals. Byron Robinson.
102 The Palliative Treatment of Hemorrhoids. H. G. Thomas.

Medical Council (Philadelphia), October.

103 *Common Food Adulterations. A. H. P. Leuf.
104 The Telephone in Country Practice. J. Beverly Deshazo.
105 Preliminary and Minor Railway Surgery. J. M. Salmon.
106 On Suggestive Therapeutics, Magnetic Healing and Osteopathy. T. H. Line.
107 Treatment of Diseases of the Nose, Throat and Ear by the Family Physician. E. B. Gleason.

Providence Medical Journal, October.

108 The Medical Library as a Factor in Medical Progress. George D. Hersey.
109 The East Providence Filter. Charles V. Chapin.
110 Tetanus. Arthur Hollingworth.
111 Electricity as a Therapeutic Agent. Francis B. Carleton.
112 The Hand as an Index in Disease. Edward E. Pierce.
113 A Brief Account of the Work of the Providence Lying-In Hospital During the Fifteen Years of Its Existence. Halsey De Wolf.

Cleveland Journal of Medicine, October.

114 *The Use of the X-Ray and Electromagnet in Locating and Removing Foreign Bodies from the Vitreous Humor. Albert R. Baker.
115 Polypi in the Nasopharynx. J. M. Ingersoll.
116 *The Surgical Treatment of Hemorrhage Occurring in Ulcer of the Stomach and Duodenum. Ralph J. Wenner.
117 *Right Subclavian Artery Passing Behind the Trachea and Esophagus—Other Anomalies. C. A. Hamann.
118 A Case of Hemorrhagic Diathesis. F. P. Russell.
119 Dissecting Aneurysm of the Aorta With Rupture Into the Pericardial Sac. W. T. Howard, Jr.

New England Medical Monthly (Danbury, Conn.), October.

120 The Essential Factors for the Cure of Inguinal Hernia in the Male. Henry O. Marcy.
121 Non-Penetrating, Penetrating, Contusive, Lacerating and Gunshot Wounds of the Rectum. Thomas H. Manley.
122 Treatment of Diarrhea of Children. Wm. H. Dukeman.
123 A Unique Hysterectomy. Frank Blaisdell.
124 Chronic Nasal Catarrh. W. E. Weed.
125 Observations on the Technique of Lavage. John T. Howell.
126 Physiatrics. Charles P. Robbins.
127 Favorable Effect of an Intercurrent Disease on Meningeal Inflammation. J. B. Stair.

Medical Standard (Chicago), October.

128 Typhoid Fever. Its History and Etiology. J. T. Moore.
129 Tertiary Syphilis. William S. Gottheil.

130 Bromid of Ethyl. Aime P. Heineck.
131 Herpes Zoster and Acne Rosacea. A. Memelsdorf.
132 Some Acute Respiratory Affections. Wm. F. Waugh.
133 The Modern Treatment of Pulmonary Tuberculosis. M. J. Brooks.

International Journal of Surgery (N. Y.), October.

134 Treatment of Appendicitis. James B. Morgan.
135 Organotherapy in Gynecologic Therapeutics. Harvey P. Jack.
136 A Brief Note on Anesthetics and Analgesics, When Utilized in Traumatisms of the Extremities. Thomas H. Manley.
137 The Surgeon and the Army. Ira P. Smith.
138 Cervix Surgery. J. E. Liggett.
139 The Technique of Surgical Gynecology. (Continued.) Augustin H. Goelet.
140 Regional Minor Surgery. (Continued.) George G. Van Schaick.
141 Epithelioma of the Tongue. Chas. N. Dowd.

Hot Springs Medical Journal, September.

142 Address on the Dedication of St. Vincent's Infirmary, Little Rock, Ark. James T. Jelks.

Atlanta Journal-Record of Medicine, October.

143 A Passing Notice of the Therapeutic Application of Psychology. Willis B. Parks.
144 The Present Status of Electricity in Medicine. William B. Snow.
145 Treatment of Infantile Convulsions. J. W. P. Smithwick.
146 An Experience With Chloreton in Cholera Morbus. Edwin B. Reed.

AMERICAN.

3. **Upright Position in Anesthesia.**—French describes a chair-apparatus, in which the patient is fastened during operations, that can be tilted back or set upright as the case may require and illustrates its use by pictures. He speaks especially of its use in operations with ether upon the nose, throat and ear, and sums up its advantages as follows: 1. The very considerable reduction in the amount of blood lost. 2. The reduction of the chances of ear complications, by securing complete drainage of the nasopharynx of blood. 3. The ease, thoroughness and accuracy with which operations can be done in the shortest time, by the retention of the usual relationship between operator and patient.

4. **Asthma.**—In this article, the first portion of which only is included in the present number, Wells describes the theories of asthma that have been held, the vasomotor theory, the uric-acid theory, etc., and toward the close notices certain peculiarities of the disease which seem to indicate that strong mental effects act at least in producing its modifications. He thinks that in theorizing as to its origin we will have to call in psychology and suggests that many of the phenomena are strikingly suggestive of the yet imperfectly understood condition known as hypnotism.

6. **Tuberculosis.**—Knopf describes the methods of infection and their avoidance and notices particularly predisposition, both hereditary and acquired, and maintains that tuberculosis is eminently a curable disease, and that if we can get an abundance of good air and good food, so that it produces new fibrous connective tissue and increases the phagocytic powers of the blood and secretions, the course of the disease will be favorable. So long as the stomach holds out there is hope for the patient and on the general success in this direction depends the cure.

8.—See abstract in The Journal of July 7, p. 52.

9. **Fracture of the Carpus.**—Ross and Wilbert's article illustrates the possibilities of fracture of the carpus from a study of fifty-two cases as shown by radiograms, and questions the rarity of the trouble. They illustrate the different types by diagrams, the scaphoid seems to be the part most often affected. There are two forms of arthritis that are apt to be mistaken for that which follows fracture of the carpus. These are rheumatoid arthritis in which the previous history is of great importance and the X-ray will clear up the diagnosis, and arthritis following prolonged immobilization of the wrist-joint or other injury of the bone above. In fracture of the carpus there is seldom any displacement, and consequently no replacement is necessary. The recognition of the injury is of great importance, however, for the purpose of preventing the consequences that may follow. The wrist must be kept quiet for two or three weeks, then careful massage must be used. This is of special importance in fracture of this part as inducing the absorption of inflammatory exudates.

10. **Tuberculosis in Colorado.**—Bonney asks whether the actual necessities justify the extreme professional stand and the somewhat intolerant popular tendencies that have been shown. He thinks that the percentage of deaths from tuberculosis is a very unfair criterion of the cases developed in Colorado. The occurrence of the disease in the state is by no means evidence that it originated there. He shows from statistics that there has been a very slight increase in the deaths from consumption in Colorado; in fact, there has been a decrease in proportion to the population, notwithstanding the inherited susceptibility of many of the natives. The influx of consumptives into the state has been a matter of some economic importance, and he thinks that compulsory notification and legislation, not meaning personal restriction or isolation, would be an excellent thing. The interference with marriage and the liberty of the consumptive is at present both impracticable and unwarranted. The education of the public as to the hygienic measures and reinforcement of resisting powers will be the proper course to pursue.

12. **Calentura.**—Calentura in the tropics means any kind of fever, but should be limited, according to Foxworthy, to that fever which occurs usually during the months of December, January and February with symptoms of simple, continued fever and a very slight mortality. He describes it as he has noticed it in the Philippines and endeavors to eliminate the possibility of its being malarious. It somewhat resembles dengue, is rarely fatal and is generally of short duration. He says "whether this fever will be recognized as one of the obscure varieties of malarial fever or will be known as a distant relation of influenza which it simulates often in the epidemic forms, or whether it will continue to be one of the many unclassified fevers of the tropics, time and the microscope will decide."

16. **Home Modification of Milk.**—Townsend's conclusions are as follows: 1. The modification of cows' milk, with a knowledge of the percentages, is preferable to guesswork feeding of infants. 2. Percentage feeding can be carried out by a milk laboratory or by home modifications. 3. Milk laboratories are unavailable to many by reason of their absence or on account of the expense. 4. Laboratory modifications do not, in the experience of the writer, agree with infants as often as home modifications. 5. Laboratory modifications are necessarily subjected to more handling and transportations than home modifications. 6. Milk that is fresh, clean, and from cows free from tuberculosis is preferable uncooked, or, in other words, pasteurization and sterilization, although sometimes essential, are to be avoided if possible. 7. The method of home modification and of calculating percentages should and can be made extremely simple, and such modifications are sufficiently accurate and uniform. 8. The addition of cereals to the milk in the form of barley or oatmeal water is generally advisable after the seventh month, and is desirable before that age in some cases as an aid to the digestibility of the milk.

19. **Finger Infection.**—The subject of traumatic infection of the finger is quite thoroughly discussed by Eliot, who points out the pathologic conditions and progress of the infection and speaks of the advantages of the conservative method of treatment. When there is a certainty of stiff-finger, it is a question for the patient to decide whether or not amputation is to be performed. Stiff-finger may be useful if properly treated and placed in a suitable position for work. He reports a number of cases illustrating his views.

20. **Colds.**—Scheppegrell's article treats of the subject of colds commonly so-called, and shows that whatever influence cold has, it is certainly not the most important factor in the production of coryza. Prophylaxis is of first importance; over-heated rooms especially those heated by steam and hot water which do not provide sufficient change of air are to be avoided. The clothing should not be too heavy and warm, and he calls special attention to the fact that excessive clothing induces perspiration which extracts heat, hence the necessity of

removing wraps when entering a warm room. One of the most useful methods of preventing colds is the use of the cold shower bath, which accustoms the system to sudden changes of temperature. Another important point is keeping the nasal passages in a normal condition. As regards the constitutional treatment there is hardly any subject on which there are so many fallacies, among these the use of quinin, which he thinks has really very little effect. Very few internal constitutional remedies are of much use; a brisk saline purgative if taken within the first twenty-four hours is one of the most useful remedies and the most available for all cases. He speaks also against the local use of drugs, particularly cocain, which is often inducive of habit. The simplest and most beneficial treatment is to bathe the nostrils with a warm normal salt solution, which soothes the mucous membrane, washes it free of acrid secretions and is absolutely uninjurious. It should be used gently with only sufficient pressure to allow it to pass through the nostrils. With the ordinary precautions he has never seen any ear trouble produced by its use.

21. **Rheumatism and Indigestion.**—Page reports a case in which he has treated rheumatism with piperazin water, a combination of phenocoll and piperazin, with strikingly good effects. He has also employed it in cases of chronic dyspepsia, with little modification of diet and with very remarkable beneficial effects.

22. **Medullary Narcosis.**—Marcus gives the history of this method, which is now coming into favor, giving due credit to Corning and attributing to Bier its introduction into surgery and to Tuffier the perfection of its technique. It was first used in obstetrics by Kreis, and he credits to Marx the first extensive report and application of the method in obstetrics in this country.

23. **Tuberculosis.**—Tuberculosis is a disease occurring from crowded, unsanitary, uncleanly, malnutritious and generally bad hygienic surroundings. The bacillus, according to Brooks, is only the histologic exponent, not the whole of tubercle, much less the disease. Pure local tuberculosis is afebrile; it is only the mixed infections that produce fever, the streptococcus being chiefly to blame. As regards treatment it is evident, he says, quoting Brieger, that a specific serum can not meet the indications furnished by mixed infection. It has been noted that the leucocytes and their alexins play a lesser part in this infection than in any other disease. As for drugs, the much vaunted creosotes and guaiacol are inefficacious, climate also is non-essential. Successful treatment resolves itself into the rational application, conversely, of its rundamental causative factors, the diametric antithesis of its so-called predisposing etiology, plus, to use the words of Moeller, "the summation of many minor curative measures, each of which, perhaps, if taken by itself, has a slight effect but collectively are productive of the greatest good." These are supplied by sanatorium treatment, and he maintains that inhalation of antiseptic or medicated atmosphere during the night's rest, hydrotherapy, diet, systematic treatment and, more than anything else, the competency and sincerity of the physician in charge are the essentials of success. In conclusion he says success of treatment is connected with early recognition of the disease, and that it may be diagnosed even without bacteriologic examination is held by high authorities. Treatment must be commenced early.

24. **Hernia.**—The points emphasized by Haynes, whose paper is illustrated by figures in sections, are: 1. We should know the construction of the normal inguinal and femoral regions. 2. We should know the changes which take place when a hernia has occurred at either of these regions. 3. In attempting a radical cure we should seek to reproduce the natural construction of the parts. 4. Nothing but absorbable suture materials should be used. 5. Every precaution for obtaining primary union should be utilized and carefully followed. 6. A truss should be applied to preserve the effects of the operation. If a radical cure has been done a truss is unnecessary; if it has not been done, a truss will not prevent the return of hernia.

25. **Light as a Remedial Agent.**—Kime gives illustrations of his method of photographing through the human body with examples of his success and gives as the principles on which the therapeutics of light is based: 1. The germicidal action due to the violet end of the spectrum. 2. The irritant action of the chemical rays. 3. The power of light to penetrate the tissues of the body. 4. The chemical action of light on the blood itself while circulating through the parts bathed in the powerful light. He remarks that he has treated a number of cases of tuberculosis of the lungs with the light treatment as shown in his first illustration of photographing through the human body, and he reports several cases of cutaneous tuberculosis successfully treated.

26. See also ¶28.

28. **Inebriety.**—Crothers remarks in regard to the gold cure that its day has passed, and analyzes some of the statistics of its results, finding that after ten years no more than 2 to 4 per cent. of the cases "cured" have continued temperate. This compares closely with the results of temperance revivals. In contrast, he points out how scientific treatment has furnished a much larger percentage of success. The chief causes of inebriety are noticed. He emphasizes the fact of the possible self-limitation of inebriety and discusses its relation to various diseased conditions, the policy of the sudden withdrawal of alcohol, the drug treatment, etc. The main point of his paper is the importance of the medical rather than the moral treatment of habitual drunkenness. See also ¶26.

37.—See abstract in The Journal of September 29, p. 841.

38. **Formaldehyde in Milk.**—This paper appears to be the result of a series of questions sent out to the secretaries of state boards of health and departments of health in the United States. In only one case was the answer returned favorable to the use of formaldehyde, and Dr. Young's views, aside from the findings of experimental work and clinical observation, lead him to advocate that it should be prohibited. He says that: 1. It is the question of encouraging or abetting the addition of a potent chemical to a food-supply by ignorant and slovenly individuals. 2. The absence of legal prohibition will enable slovenly and dishonest persons to put dirty and unwholesome milk upon the market. 3. There is no real advantage in using chemical preservatives in milk, if we are careful and cleanly. 4. The fact that one man or a few take antisepticized milk without apparent harm does not warrant the deduction that babies may be frequently doctored with it. 5. In former years, boric and salicylic acid have been deemed innocuous, but it has been found since that they both have bad effects if taken continuously. One of the correspondents, while not advocating formaldehyde seemed to think that it evaporated quickly. This, however, is a mistake according to the experience of those that have had much to do with it. Another correspondent suggested that it might be allowed under a law establishing a legal maximum. Dr. Young thinks that this would be equivalent to a complete surrender to the adulterators. The results of his examination of all the available printed and other reports regarding the action of formaldehyde seem to justify and require the following conclusions: That, used as a preservative, it tends at least to impair the nutritive value of milk; that its tendency is also to interfere with the digestive processes—in either case it is only a question of dosage, and the limit of safety is difficult to determine; that, though the inhalation of formaldehyde gas is much less dangerous than the breathing of the other gaseous agents much used as disinfectants, the results of tests upon animals and one case of accidental poisoning of a human being, indicate that formaldehyde taken into the digestive system may produce dangerous and even fatal results; that it would be unwise and unsafe to encourage or to suffer the use of formaldehyde in the public milk-supply, even under any possible restrictive regulations; that in every state, as there are now in many, there should be a law prohibiting with effective penalties the use in milk of any chemical preservative whatsoever. These, at present, are the only rational and safe conclusions. If new light arises in the future we can take our bearings anew, and correct our course if need be.

41.—See abstract in THE JOURNAL, xxxiv, p. 1333.

42.—Ibid.

45. **Treatment of Hysteria and Neurasthenia.**—Loveland divides the special points which he makes in regard to the treatment of this condition into five heads. 1. Correct errors of physique. In many cases of both neurasthenia and hysteria we find a debilitated general condition. We should look for evidences of lithemia, malaria, syphilis, etc. Any disease affecting the nutrition, or any irritation producing nerve-waste should be corrected. The means to be employed may vary. The free use of water should be enjoined and the diet regulated so as to be unstimulating and wholesome. 2. The surroundings should be looked after; if they are depressing, they should be changed. Exclude everything that is not cheerful, induce exercise and avoid if possible the wheelchair and hammock habit or anything that will tend to inactivity. 3. Hydrotherapeutics and calisthenics are powerful agents for good; he mentions the methods and includes in this treatment massage. The mental attitude of the patient must also be attended to. The moral treatment is especially important; it is the secret of the success of faith cures, "Christian Scientists," etc. He would not throw aside medicine. Even a more thorough examination than the physician might think necessary will have a good effect in increasing the confidence of the patient. The medicines that are mentioned are often overrated. Strychnin comes first as a nerve tonic, but it should not be used so that it will be felt by the patient. Mild, harmless sedatives like valerian, camphor and hyoscyamus, judiciously used are also serviceable. Laxatives may be needed, in which case phosphate of soda is one of the best. Other medicines may suggest themselves. The latter part of the paper is taken up with reports of cases.

46. **Graves' Disease.**—Norbury describes the symptoms of Graves' disease, of which those referable to the heart are the most characteristic, and discusses the theories. So far as clinical facts go, he believes the theory that the disease is one of the cervical sympathetic nerves and that it is the result of the irritation of the vasomotor dilator nerves and of those nerves of the head and heart that have their origin in the medulla. He is convinced as to the nervous origin of the disease.

48. **Longevity of the Literary Female.**—The first paper of Spitzka's reviews a number of curious facts in regard to literary women, especially that their marriage relations are more unfortunate than the average. Of 60 literary women, several married twice and a few three times, so that there were 77 unions represented. Of these, 22 became dissolved by separation or divorce—by apparently a typographic error it is said that 57 husbands were survived by four widows. Of 382 cases of female poets, scientists and journalists, 280 were found to be married and to have sufficient data existing relative to them to be useful for the present inquiry. Of these 61 married twice, 3 a third time, and one a fourth time, making a total of 345 husbands to 280 wives. Of this number 230 were not divorced from their first husbands, and of the latter 175 survived their partners. He found that the ratio of surviving widows to surviving husbands, among these literary women is that of 100 to 26; the ordinary ratio of widows to widowers being about 2 to 1. This shows an immense discrepancy against the husbands of literary women. If to make a fair proportion he had allowed those who had been divorced from their second husbands to remain in the columns of the surviving, the ratio would have been only 100 to 21. The statistics direct attention to the fact that marriages between literary females and non-literary males contrast unfavorably with those where both members are literary, and that this exhibits itself in the earlier mortality of the male partner, and that the literary female is less adequate to the duties of a wife and mother than the average woman. As regards divorce, he finds that 75 out of 290 with accessible records have been divorced or otherwise separated from husbands, and that so large a proportion of these repeated this performance, that no less than 82 husbands figured in divorces from 75 wives.

56. **Prenatal Degeneracy of the Eye.**—Dean first remarks on the general conditions of degeneracy and reports cases in which he has found ocular symptoms indicating this tendency. Of these, retinitis pigmentosa seems to be the most frequent, is also accompanied with other stigmata, often hereditary, and is very frequently associated with consanguinity of parents. The other forms which he mentions particularly are the presence of persistent hyaloid accompanied with congenital absence of Mueller's muscle, and congenital glaucoma, both of these being examples of persistent fetal conditions associated with degenerative taints. Coloboma and aniridia were also found in several cases with bad family histories.

59. **Etiology of Malignant Diseases of the Skin.**—The etiology of carcinoma is reviewed by Hartzell, who concludes that we can regard it as fairly well demonstrated that it results from some profound and more or less permanent alteration of the mechanism of cell division. The alteration may in his opinion result from long-continued irritation of a mechanical or chemical kind, including under the latter the microorganic toxins. The immediate causes of cancer, therefore, are probably multiple. Xeroderma pigmentosum is obscure as to its causation, but he holds that, owing to the early age at which it appears and the frequency of its occurrence in members of the same family, there is an inborn skin defect. He suggests also, in view of the rapidity of growth and malignancy of melanotic growths, that it is quite possible that the pigment exercises some toxic effect on the epithelium, producing a profound disturbance in the processes of the cell division. As regards Paget's disease, age and sex are the two most important etiologic factors; it is rarely found in men and before the age of 40. Of the direct causes we know nothing. The psorospermial theory of Darier has been thrown out as unfounded, and Hartzell thinks that it is likely that the irritation and injury to the nipple during nursing plays some part in the production of the diseased condition of the epidermis producing the cancerous affection.

60. **Recurrent Epididymitis.**—After a review of the subject and brief reports of a number of cases Chetwood concludes as follows: 1. Surgical resection of the testicular ducts, which obliterates the lumen entirely and positively prevents an ascension of the spermatozoa into the urethra, also prohibits the descent of inflammation from the urethra into the epididymis. 2. The pathologic occlusion of the ducts by inflammatory process only accomplishes this result partially, since it is clearly in evidence that many of the cases having had double inflammatory epididymitis still continue to suffer from a recurrence of inflammatory attacks in the epididymis, and since it is also proved that some of these individuals continue to have vital spermatozoa in their seminal discharges and to retain the capacity to impregnate their wives. He is not aware that this point has been clearly demonstrated before this writing.

61. **Treatment of Malignant Diseases of the Skin.**—Cancer being a local disease, its treatment must necessarily be local, and constitutional measures other than those needed to support the patient are useless. Of the local treatment there are two methods; caustic and excision. The former, while it has its advocates, has a weak point in that it postpones the removal of the lymphatic tissues and glands in the neighborhood. Shepherd holds that there may be affection of the glands without apparent symptoms, and that in all cases, to be on the safe side, all the neighboring glands and lymphatic tissue should be excised, especially when the disease occurs in such parts as the tongue, lips and genital organs. The results of excision, so excellent of late years, have been due to the recognition of the facts that cancer is a local disease and therefore must be removed early, and that it spreads by the lymphatics. He admits that there are certain malignant ulcers of the skin which, if seen early, may be successfully removed by caustics, especially those slow-growing forms seen in regions somewhat removed from the glands, such as in the nose, forehead, cheeks, temples, etc. In rodent ulcer, in cases of slow growth and when the glands are not rapidly affected and where the ulceration

is superficial, other means than excision may be employed. Caustics are also most useful when the disease has affected the bone. He has grounds to think that there is a medium to be found between the practice of physicians and that of surgeons in the treatment of this condition. If caustics were properly applied instead of being used only by quacks, many patients would be better off than is now the case. The use of toxins obtained from cancerous growths, advocated by Adamkiewicz in 1893, has been practically discarded. The erysipelas toxins of Coley have been rather more successful. The different caustics such as arsenic, caustic potash, and their action are here mentioned, as is also electrolysis, advocated by Dr. G. B. Massey. In skin sarcoma, when single and localized, early and complete excision is the best treatment. In cases of malignant multiple sarcoma, hypodermic injections of arsenic have been successful in many cases and attacks of erysipelas have actually caused sarcoma to disappear, hence the suggestion of Coley, who has reported success. Shepherd has himself tested these toxins but without good results.

62. **Proliferation and Phagocytosis.**—Mallory first describes the different phagocytic actions observed from various infections, and in conclusion suggests the question whether the processes he has described are due directly to the action of toxins or reparative. In repair, cells proliferate for definite purposes—to cover denuded surfaces; to replace loss of tissue; form new blood-vessels, etc. The cells, however, which proliferate under the direct action of toxins, multiply greatly in excess of need and show lack of definite purpose. They may exert some more or less beneficent action, possibly produce antitoxins, but they must not be regarded as reparative and may do great harm, block up lymphatics, produce narcosis, be carried to the liver as emboli and otherwise interfere with the organic economy. The phagocytic cells are phagocytic beyond all bounds of necessity and destroy great numbers of active, useful cells. They are all abnormal and, to a certain degree, malignant.

64. **Neurofibrils of the Ganglion Cells.**—Paton has studied the special neurofibril structure of the cortical ganglion cells, using a special modification of his own of Apathy's method. He hopes still further to improve this method in future research. As regards the nature of neurofibrils, he disputes their being artefacts, showing that they undergo rapid degeneration after death. In one of his sections the visible network of fibrils is not within, but is superimposed upon, the cell and its processes, and he thinks this extracellular network is that which Held has described as the pericellular network of terminal axones, also the reticulum surrounding the nerve cell described by Golgi. After a careful study of the development of the ganglion cell, he has come to the conclusion that the presence or absence of "gemmules" is dependent upon the existence or non-existence of fibrils. A gemmule is formed by a silver deposit at the point where the nerve filament or fibril enters the nerve process. This is also found if the fibril is simply lying on the process. They are found either at the point of entrance or at a simple contact of the fibril with the protoplasm of the cell process.

65. **Oxaluria.**—The conclusions of Baldwin's experimental study are as follows: 1. As varying amounts of calcium oxalate may be held in solution in the urine, conclusions based on the presence or number of calcium oxalate crystals found therein are of no real value as an indication of the quantity of the oxalic acid present. 2. Unless the utmost care is exercised, the results obtained by quantitative estimation of oxalic acid are subject to large percentages of error. This is especially true in the use of Neubauer's or Shultzen's methods, in which the calcium oxalate is precipitated in an alkaline solution. 3. An ordinary mixed diet regularly contains traces of oxalic acid or its salts. 4. A portion of the oxalic acid ingested with the food may be absorbed and reappear unchanged in the urine. 5. The normal daily excretion of oxalic acid in the urine fluctuates with the amount taken in the food, and varies from a few milligrams to two or three centigrams, being usually below ten milligrams. 6. In health, no oxalic acid, or only a trace, is formed in the body, but that present in the urine has been ingested with the food. 7. In certain clinical disturbances which in some of the cases studied above were associated with absence of free hydrochloric acid from the gastric juice, oxalic acid is formed in the organism. 8. This formation in the organism is connected with fermentative activity in the alimentary canal. *a.* Prolonged feeding of dogs with excessive quantities of glucose, together with meat, leads eventually to a state of oxaluria. *b.* This experimental oxaluria is associated with a mucous gastritis, and with absence of free hydrochloric acid in the gastric contents. *c.* Oxaluria and accompanying gastritis are referable to fermentation induced by the excessive feeding with sugar. *d.* Experimental gastritis from fermentation is associated with the formation of oxalic acid in the gastric contents. 9. The symptoms attributed to an oxalic acid diathesis, with the exception of those due to local irritation in the genito-urinary tract, do not appear to be due to the presence in the system of soluble oxalates, but are more likely to depend on other products of fermentation and putrefaction.

66. **Serum-Globulins and Antitoxin.**—From a series of experiments Hiss and Atkinson conclude that the amount of antitoxin substance obtained by precipitation with magnesium sulphate from the blood-serum of the horse, corresponds as nearly as can be determined in full to the protective power of the serum from which it is obtained. Equal amounts of precipitate by magnesium sulphate from immunized and non-immunized horses act differently toward toxin, thus the proportion of protective substance to the precipitate from non-immunized serum is exceedingly small as compared with the proportion of antitoxin from the precipitate from the serum of immunized horses. The average precipitate from the latter is more abundant than that from the serum of non-immunized horses, and before immunization the serum gives less abundant precipitates than afterward. The proportion of increase per unit of antitoxic strength for the same or different horses is not constant. This may be due to the increase of inactive substance or to imperfect methods of determination. They do not feel warranted in considering any parts of these precipitates as anything else than globulin, but do feel warranted to conclude from the fact that globulins of normal serum do not protect or only in comparatively large amounts, against diphtheric toxin, that new globulins are formed, or rather greatly increased in the serum of immunized horses and that these globulins protect against the toxin. Every animal has its physiologic and pathologic history, hence absolute conformity in the results obtained is not expected.

67. **Antitoxic Strength of Globulins.**—Atkinson has carried out some investigations as to the fractional precipitation of globulin and albumin of normal horses and diphtheric antitoxic serum and the antitoxin strength of the precipitates, from which he deduces the following: 1. The globulins of both normal and diphtheria antitoxic serum exhibit chemically toward reagents the same reactions, being precipitated by magnesium sulphate and split up into fractions in precisely the same way. 2. All the diphtheric antitoxic power of both normal and immunized serum is always carried by the globulin and its fractional precipitates. 3. During the fractional precipitation of the serum-globulin of horses immunized from diphtheria toxin and horses not immunized from diphtheria toxin, some of the globulin is lost, likewise at the same time some of the antitoxic power of the globulin of the immunized serum is lost. 4. These reactions, considered in connection with the fact that different observers as well as the author have found diphtheric antitoxic power in normal horse's serum and that this antitoxin separates with the globulin, strongly inclines him to consider "diphtheria antitoxin" a form of globulin. 5. The reactions of globulin, previously separated from the serum by magnesium sulphate, with sodium chlorid lead one to think that there is a formation of globulin salts. 6. Since serum albumin in a magnesium sulphate solution gives fractional precipitates at definite temperatures, it seems not improbable that the albumin is precipitated in the form of albumin salts.

68. **Sporothrix Schenckii.**—Hektoen and Perkins describe a case of refractory subcutaneous abscess similar to those noticed by Schenck in an article in the *Bulletin of the Johns Hopkins Hospital* for December, 1898. Dr. Hektoen was unable to see any distinguishing difference either culturally or morphologically between the fungi of Dr. Schenck and those of their own observation. A characteristic clinical feature in the human cases that have been found is the refractory character of the subcutaneous abscesses.

78. This article will be noticed editorially.

79. **Echinococcus of the Pleura.**—Cary and Lyon describe a case which they consider of interest from its rarity and from the peculiar type of degeneration of the cyst wall which, according to them, is described here for the first time. The wall became a thin, hyaline structure which was derived by the process of degeneration from the cuticular walls of the parasite itself and not from the tissues of the host.

83. **Pedicle Flaps in Injuries of the Hand.**—Schroeder describes the method of restricting contracted cicatrices of the hand by the pedicled-flap method and illustrated by cases. For covering the thumb, dorsum or palm, flaps may be taken from the chest or abdomen; where the palmar surface of fingers is destroyed it is much better to have double pedicles and they can be best obtained from the hip. The advantages are: 1, mobilization; 2, elasticity; 3, certainty of taking.

84. **Hydrocephalus.**—After reporting a case of internal hydrocephalus following cerebrospinal meningitis, Joslin gives a résumé of the literature of such cases, description of the pathologic symptoms, prognosis and treatment of the condition. He notes especially the very long duration and the large mortality, though it would appear that the prognosis is better than has been supposed. As regards treatment he sees little benefit from tapping.

90. **Obstetric Surgery of Pelvic Contraction.**—It is generally believed that pelvic contractions or deformed pelves are more common among Europeans than among Americans. While Jewett seems to doubt the absolute truth of this, he admits that it is much less common, though not as rare as usually assumed. There is a lack of statistics of pelvimetry in this country which has been noticed by European authors, and he gives here the simplest methods of measurements. External mensuration has the advantage of being least uncomfortable to the patient and most easily done. The only external diameter essential for the purpose is the external conjugate, and this is best measured, not from the spine of the last lumbar vertebra, but from the depression immediately below it to a point on the pubic surface a little below the upper margin of the symphysis. With the external conjugate at or below 6 or 6¼ inches, the pelvis is invariably contracted. With one at or above 8 inches it is almost surely ample. Between these two figures the matter is in doubt and should be determined by other measurements. Of the internal measurements the diagonal conjugate is the most important and it should not be less than 4½ inches. Allowance may be made for the variations in depth, thickness and inclination of the symphysis, but these are less important in diagnosis of deformity than in determining its degree. Some usual indications of pelvic contractions at labor are: 1. Failure of the head to engage during active labor. 2. Failure to engage by well-directed suprapubic pressure. This often may be employed to advantage as a test in a few weeks immediately preceding labor. 3. Failure of tentative traction with forceps. In partial enlargement of the head the latter should always be tried with the aid of the Walcher posture before resorting to surgery. He speaks favorably of symphysiotomy, believes that it still holds an important place in obstetric practice and does not believe that it leaves any permanent enlargement of the pelvis. It is of value in cases of slight contraction and is simpler than Cesarean section. Considering Cesarean section he remarks that the disposition of the uterus is important, but the ethical side of the question must be considered; except when demanded in the interest of life, the surgeon can not assume the right to remove it without the patient's consent.

95. **Hemolysins.**—Fisch notices the results of Ehrlich and Morgenroth, who find that hemolysins which will act on other animals and other individuals of the same species will not act on individuals producing them. The autolysin seems to be undiscovered. He reports his own experiments, which bring out nothing special other than that found by Ehrlich and Morgenroth, and says that it seems most probable to explain the phenomena by the absolute absence of receptors in the tissues of an animal for the haptophorous groups of its own corpuscles.

103. **Common Food Adulterations.**—In this second article, Leuf notes the adulteration of extracts, vanilla for example, which is very largely made up of tonka bean and others of various fruits are manufactured of compound ether, coloring matter, sugar or glucose, and water. Both the natural and artificial extracts usually contain preservatives, the commonest of these being salicylic acid. Lemonades are manufactured from oil of turpentin and tartaric acid with sugar. Milk and cream are adulterated with water and preservatives. Canned goods are usually pure. The only adulterant of coffee is chicory, and this is only possible when it has been ground. The public is very often imposed upon by getting a poorer grade than it pays for, but it always gets coffee if it buys the bean, and does its own grinding. Very little good tea comes to this country. It is a common belief that vinegar is merely dilute sulphuric acid, but its production is so cheap that it would not pay to adulterate it. Vinegar may be diluted, and a so-called vinegar essence is sold consisting simply of concentrated acetic acid or crude pyroligneous acid. Cocoa and chocolate are deteriorated by the abstraction of the fat before being ground and are also diluted with varying proportions of cereal starches and ground cocoa shells. The adulteration of wines, beer, etc., is also noticed.

114.—See abstract in The Journal, xxxiv, p. 1418.

116. **Surgical Treatment of Ulcerations of the Stomach.**—Wenner reports two cases of gastric ulceration treated by operation, and from a study of these and of others gathered from the literature of the past years he considers the following conclusions justified: 1. That the severity of the hemorrhage does not indicate the degree of ulceration. 2. That the time of vomiting bears no constant relation to the location of the ulcer. 3. That repeated small hemorrhages or recurrence of a second grave hemorrhage demand operation. 4. That after careful medical treatment extending over a period of two months, without amelioration of symptoms, an operation should be advised.

117.—See abstract in The Journal, xxxiv, p. 1624.

135. **Organotherapy in Gynecology.**—Jack reports several cases in which organotherapy was employed, and concludes: 1. Thyroid extract is one of our most reliable vasomotor constrictors. In gynecology it should be limited to hemorrhages, especially those in which epithelial elements of the endometrium are concerned. 2. Mammary extract controls the hemorrhages from fibromata and reduces the size of the tumor; in some cases causes their disappearance and in such disorders it should be preferred to thyroid extract. 3. Parotid extract is the best remedy yet brought out in the treatment of dysmenorrheal; it softens pelvic exudates, regulates menstruation, and relieves nervous symptoms. 4. Ovarian extract is indicated in nervous symptoms of the menopause or when from any reason it is desirable to increase the flow. He believes in its function of internal secretion and thinks it the best ovarian stimulant.

FOREIGN.

The Lancet, October 6.

Aneurysm of the Renal Artery. Henry Morris.—Two varieties of aneurysm of the renal artery are known after injuries: 1. Small sacciform aneurysm, the walls of which are formed by some or all the coats of the artery. 2. Large, false aneurysm, the walls of which are composed of the condensed fibrous tissue developed around the extravasated and coagulated blood, and with which the surrounding organs and tissues become more or less firmly matted. False aneurysm sometimes reaches an enormous size and may be due to the giving way of the small true aneurysm, to the yielding of a thrombus, which temporarily closed a ruptured artery, and to immediate outpouring of blood from a ruptured artery. True aneurysm may also be associated with an extravasation of blood and also with the false aneurysm and both may be the result of some accident. Morris gives accounts of cases of various types of this accident and discusses the etiology. Of 19 cases 12 were traumatic and 7 spontaneous. Of the 12, 2 were sacciform, 9 false and 1 doubtful. Males appear to be particularly susceptible as 10 out of the 12 were of that sex. The spontaneous cases were associated with malignant endocarditis with multiple embolism, cancerous degeneration of the arterial coats, nephritis, and probably embolism and thrombosis. Small sacciform aneurysms when unruptured produce no distinct changes in the kidney. False aneurysm is associated with pressure changes and numerous symptoms, tumor, hematuria, etc. As regards the diagnosis the small sacciform aneurysm giving rise to any symptoms may be unrecognized during life. The tumor caused by false aneurysm is especially difficult to diagnose and may be confused with renal new growths, hydro or hematonephrosis, etc. Its prognosis is most unfavorable. The only rational treatment is nephrectomy and the removal of the whole or greater parts of the aneurysmal swelling. The operation will generally have to be commenced as an exploratory one, and when the tumor is recognized the incision should be enlarged, the pedicle secured or renal artery ligated, at any rate before attempting to amputate or remove the sac. The risks are hemorrhage and shock. In exposing the sac it is advisable to incise it and remove a little of its solid contents. If hemorrhage occurs the opening should be immediately packed with gauze. The adhesions may unite the wall of the aneurysm with the peritoneum and bowel, and if the adhesions are tough and firm it may be impossible to remove the whole of the sac wall. As much of the wall as possible should be removed and the rest left and drained.

British Medical Journal, October 6.

Some Problems of Tropical Medicine. William MacGregor.—In this address on tropical medicine MacGregor gives some interesting particulars as to the introduction of old diseases among the tropical race as well as regards the special indigenous diseases themselves. Typhoid fever, for example, was unknown in Polynesia, and also in British New Guinea until introduced. The disease of yaws, however, is one that almost everyone in the tropics will come in contact with, and is considered by the natives as inevitable. While not very contagious to Europeans it is loathsome and troublesome when caught. It is much more mild in the African and Papuan than the Polynesian, and MacGregor generally found it not very readily curable; as regards its eradication, situated as he was in New Guinea, he thinks he might as well have tried to arrest an earthquake. Venereal disease was unknown to the Pacific Islanders until introduced and seems to take a specially active course among them. The same is true of measles, which destroyed about one-third of the Fijians when first introduced, giving a remarkable example of the exuberance of a new disease among a new people. It was not more surprising in Fiji, however than the itch in New Guinea. This malady, introduced in some old clothes, spread like a tidal wave, affecting thousands of the population; but after a while it finally declined to a level, at which it will probably always keep in a community where clothes are common property and itch attacks the human face. Dysentery was unknown in British New Guinea and Fiji before the advent of Europeans, and its mortality has been exceedingly high in the Polynesian Islands. The man who will work out an effective means of dealing with it will be the greatest benefactor of the tropical [illegible] is the most important matter to both the stu[illegible] diseases and the tropical resident. Since the d[illegible] mosquito's agency we will have to take me[illegible] neglected; mosquito nets, protection of pools [illegible] from insects and avoidance of exposure through the means of clothing, etc., drainage and many other matters are suggested. In the tropics the population going half-naked complicates the situation. Civilized Europeans will not wear low-necked dresses in malarial regions if they have learned to take proper care of themselves, nor will they sit with their feet under the table with their ankles exposed, excepting for silk stockings. Elephantiasis is another mosquito-borne disease, and though of minor importance, is an interesting subject. Diphtheria, cancer, and tetanus appear to be all introduced diseases in New Guinea and the Polynesian Islands. Erysipelas was also unknown there. Tinea imbricata is a very evident disorder. Ankylostomiasis is indigenous in the Pacific without doubt. The exclusion thus far of rabies from the Australasian colonies is a most important matter, and with the habits of the wild and domestic native dogs its introduction would be a very serious one. The government measures for excluding this disease are, it is hoped, taken effectually for all time. Other subjects mentioned are the jigger, which is comparatively unimportant; leprosy; quarantine, which is not an English favored method, and the need of medical men being experts on the question of drinking-water especially.

A Discussion on Subdiaphragmatic Abscess.—The discussion is opened by Godlee, who first notices the anatomy of the subject, and then passes on the classification as proposed by Maydl. When an ulcer of the stomach bursts in the general cavity the subdiaphragmatic portion of the collection of fluid must not be regarded as a separate abscess, but occasionally the effusion is localized, and then we have essentially an acute sub-diaphragmatic abscess. It is generally limited to the right by the falciform ligament of the liver, its other limitations will vary with different cases. Occasionally the rupture occurs on the posterior aspect of the stomach, giving rise to a collection in the small sac of the peritoneum and this may also be called a subdiaphragmatic abscess. The abscesses resulting from gradual rupture of an ulcer where adhesions are previously formed, are very different, and may set up processes in various directions. They may also be accompanied with collections of serous fluid in the pleura. Rupture of an ulcer of the duodenum or transverse colon may cause subdiaphragmatic pneumothorax, a collection of pus and gas pushing the diaphragm up sometimes quite high and reaching down a long way into the abdomen. A simple opening of the abscess may effect a cure, but occasionally it may be possible to reach and close the perforation. Those resulting from appendicitis often track up along the ascending colon and cause a collection between the liver and diaphragm. General peritonitis is not infrequently associated with the formation of pus around the liver and spleen. Suppurating hydatids of liver and spleen may lead to enormous collections of pus beneath the diaphragm, which may be mistaken for empyema, and many abscesses of the liver erupt into the subdiaphragmatic space. Acute suppuration of the gall-bladder may also be accompanied by subdiaphragmatic abscess, though more frequently it is situated farther down. Perirenal abscesses, while they usually point in the loin, may be purely subphrenic. They are not like those hitherto considered, peritoneal, but separate the peritoneum from the diaphragm. They are generally associated, however, with a certain amount of plastic peritonitis with its usual symptoms. The diagnosis is somewhat obscure, though the treatment is not difficult when once diagnosed as a rule. Cases are recorded of abscess in this situation following injuries unaccompanied by wounds. Godlee thinks that these depend on the rupture of some previously existing ulcer. That cases may occur after wounds is generally understood. Metastatic abscess is mentioned, but he does not understand just what is referred to, and has no personal experience with such. Caries and necrosis of [illegible] *rise to subphrenic abscess,* [illegible] hardly [illegible] use [illegible] is [illegible] way down to the space below the diaphragm, but this is much less common than for a collection of matter below to work upward. Actinomycosis so frequently affects the liver that it almost deserves a special heading, but its progress is so slow, however that there is always time for adhesion to occur before the suppuration extends beyond the capsule of this region. Two other possible causes are mentioned, tuberculous peritonitis and diseases of the pancreas, including calculi and pancreatitis.

A Discussion on the Methods at Present Available for the Treatment of Simple (Subcutaneous) Fractures. William H. Bennett.—Bennett sums up his conclusions in regard to the treatment of simple fractures in the following statements: 1. The treatment of simple fractures at present, although less stereotyped than hitherto, is still conducted generally too much on lines which are traditional rather than rational. 2. The use of splints for long periods is disadvantageous, especially in the form of irremovable appliances such as plaster of paris and the like. 3. Speaking generally, the earlier movements of the joints above and below the fracture in a long bone are used the shorter is the time occupied in recovery. 4. The legitimate scope of the operative treatment of simple fracture is limited, and should be confined to cases which are otherwise unmanageable; special cases such, for example, as certain spiral and oblique fractures, mainly of the tibia, and certain fractures near joints, notably of the humerus at the elbow. 5. The operative treatment of recent fracture of the patella is by no means so generally satisfactory or so free from risk as published cases would tend to show; and further, in cases in which the separation of the fragments does not exceed half or even three-quarters of an inch, as good results for practical purposes are obtainable without operation although less rapidly. 6. The use of massage and passive movements immediately in simple fracture when the circumstances of the patient and of the practitioner admit of it either in its entirety or with modifications is, in the majority of cases, the best means of effecting a rapid and useful recovery. 7. The tendency of late has been to exaggerate the degree of disability and diminution in wage-earning capacity following upon simple fractures. 8. Although no pains should be spared in obtaining perfect apposition of the fracture ends, moderate displacement, provided that it is not rotatory, is not necessarily followed by any disability if care be taken by the use of early movements to prevent any matting of the parts around the fracture; in other words, the disability which follows in certain cases in which the position of the united fragments is not ideal is due, not to the bony deformity, but to the adhesion of the soft parts around, which is easily preventable. 9. Having regard to the unavoidable modifications which must be dictated by the circumstances, social and otherwise, of the patient, and by the facilities possessed by the practitioner, no one method of treatment for simple fractures can be insisted upon for routine use even in cases in which the local conditions are precisely alike. To the discussion of the methods in regard to simple fracture he adds in tabulated form the information obtained from submitting a series of questions to 300 physicians of London and other parts of Great Britain.

Annales de la Soc. Med.-Chir. de Liege, July.

Granulation Through Gauze. Roersch.—The gauze applied in dressing a large burn on a child was left when the dressing was renewed. Granulation was so intense that the tissue proliferated through the gauze and a layer of granulations formed on the external surface. They became painful and suppurated; the gauze rotted and the entire surface of the wound had to be scraped, after removal of the large flap of gauze with granulations still adherent on both sides.

Presse Medicale (Paris), September 22, 29, October 6.

Epididymo-Testicular Tuberculosis and Ligature of the Spermatic Cord. P. Mauclaire.—Suppuration and a prostatic lesion are the signs of tuberculous epididymitis. The absence of a discharge excludes gonorrhea, and syphilitic infection is usually localized on the testis, which becomes flattened and completely insensible even to strong pressure. Mauclaire treats epididymo-testicular tuberculosis by ligating the spermatic cord in two places, 2 cm. apart, close to the inguinal canal, and severing the cord between them. The testis soon establishes collateral circulation by adhesions with the neighboring parts. The advantages of this method are manifold. It retains a "moral" testis, separates a tuberculous focus from the rest of the organism, isolates it from the prostate and is possibly able to prevent infection of the other testis, which is not always accomplished by castration. His results have been extremely encouraging. The testis may swell at first but by the end of a month atrophy commences, or it may retain its normal size for six months, but sooner or later it becomes transformed into a painless bunch. He sutures the wound completely after cauterizing.

September 20.

Simple Primary Hyperchlorhydria. L. Sansoni.—Fourteen years' experience as a specialist in gastric troubles has only confirmed Sansoni's previous conviction that what we call hyperchlorhydria is in reality merely an exaggerated specific sensitiveness of the gastric mucosa to the hydrochloric acid, which is not necessarily in excess. His chief arguments in favor of this view are that perfectly healthy persons may have an exaggerated gastric secretion or hyperchlorhydria without disturbances, and that this exaggerated secretion may persist or even increase after complete recovery from what we call classic primary hyperchlorhydria. Also the existence of a normal or subnormal gastric secretion in persons exhibiting all the symptoms of primary hyperchlorhydria, and the efficacy of the usual means of cure in such cases. He therefore proposes for the affection the more accurate and descriptive term "digestive hydrochloric hyperesthesia." He adds that it is impossible to determine the exact figure representing the normal hydrochloric secretion of the stomach, and that the alterations in this secretion are unable, alone, to originate morbid phenomena. The specific hyperesthesia of the gastric mucosa for hydrochloric acid is also liable to cause a reflex spasm of the pylorus and hence retention of the food and, secondarily to this retention, a continuous secretion of gastric juice. These phenomena are proved by the abolition of the spasm and evacuation of the contents of the stomach after ingestion of sodium bicarbonate to neutralize the hydrochloric acid, or by soothing the hyperesthesia with atropin or hot water; also by the coincidence of the spasm with the acme of digestion, when the secretion of hydrochloric acid is at its height. The success of various remedies is probably due to their action on the gastric sensibility, and not on the secretions, as hitherto assumed. Lavage of the stomach with tepid alkaline water, hydrotherapy, climate, suggestion and electricity all act in the same way, curing the neuropathic hyperesthesia. It is possible that continuous gastric succorrhea might be due to a primary and fundamental disturbance in the secretion, but in Sansoni's experience he has found in every case in which the symptoms indicated continuous gastric succorrhea, remains of food in larger or smaller amounts in the fasting stomach, even in the morning.

October 6.

Varicellic Rashes. L. Cerf.—About the only positive differentiating symptom between a varicellic rash and scarlet fever is the pink stripe observed in the center of the white band that follows linear pressure with the nail or point of a pencil on a patch of the eruption in scarlet fever. Varicellic rash may occur anywhere on the body, but the eruption in variola usually first occurs as "bathing trunks." The scarlet-fever eruption always scales in time, while nothing of the kind occurs in a varicellic rash.

Gouty Angina Pectoris. L. Brodier.—The pathologic action of gout on the cardiac plexus is well illustrated in the case described, in which the attacks of angina pectoris from this cause alternated with joint troubles. No lesion of the aorta nor constriction of the coronary arteries was found at the autopsy, but the myocardium was altered and the right heart dilated.

Semaine Medicale (Paris), October 3.

The Pupil Danger Sign in Bromid Treatment of Epilepsy. Gilles de la Tourette.—The most successful, in fact the only treatment we have for essential epilepsy is with the bromids. They should be administered for two or three years with the most scrupulous vigilance in the exact doses ordered by the physician, using always the same spoon or medicine glass to ensure accuracy in the dose, which must be graduated to the individual case. A distinct advance in the treatment of epilepsy is the discovery of a sign which enables the exact individual dose to be determined for each patient. In the course of bromid treatment when the drug is well tolerated the pupils are normally dilated. They react as usual to light and accommodation. If the dose is increased, a moment arrives when the pupils become dilated and respond lethargically to light and accommodation. With a still larger dose the pupils are dilated to the maximum and do not react at all. When the reactions first become sluggish there is a general sensation of slight physical and mental depression. The patient feels heavier and tired, with less aptitude for mental and physical labor and with an inclination to sleep during the day. The appetite fails, with constipation in some cases. These symptoms in combination with the pupil sign indicate that the adequate individual dose has been reached. This condition is harmless and should be maintained, the dose of the bromids increased or diminished according as this condition varies. If the adequate dose is unmistakably attained at the end of two three-week periods—which represent a month and a half of treatment—it is seldom necessary to increase it more than 2 or 3 gm. during the remainder of treatment. Even in epileptics extremely sensitive to bromid intoxication it is possible to cautiously reach and keep up the adequate dose without general accidents of intoxication if the pupils are watched and the patient kept under surveillance. If exaggeration of the general symptoms and gastric disturbances occur, the bromid must be immediately suppressed and the patient purged and put on a strict milk diet with squills and digitalis to stimulate the heart and kidney action for three to four days. The bromid can then be recommenced in small doses until the adequate dose is reached once more. The seizures are liable to recur if the adequate dose of bromid is surpassed, the same as when too little is given. The local accidents are less easy to handle. They may coexist with the general, but are usually independent. They occur as cutaneous manifestations, chiefly in subjects predisposed to acne. A few slight patches of acne are trivial, but when a confluent eruption occurs it may interfere with the occupation and oppose an obstacle to efficient treatment. In case of absolute intolerance, the bromid can be administered by the rectum, using 1 or 2 gm. more than by the mouth. It is possible to determine the adequate dose by the pupil sign, the same as when bromid is taken by the mouth. In these cases it is sometimes possible to combine a small amount by the mouth with the rectal injection. The formula found most effective is a combination of 40 gm. of potassium bromid and 12 gm. each of sodium and ammonium bromid and sodium benzoate, in 1000 c.c. of boiled or distilled water. This is equivalent to 1 gm. of the combined bromids to a tablespoonful, which is taken after the first breakfast and on retiring. If the seizures are known to recur at certain hours, it is best to give two-thirds of the dose for the day just before the hour. The main features of the treatment described are the determination of the adequate dose and the maintenance of this dose until all accidents have disappeared, then saturating the system by maintaining the adequate dose at its maximum for a year longer, then gradually diminishing by a gram at each three-weeks' period under careful supervision, and resumption of the maximum adequate dose at any indication of trouble. The patient should be warned that if the proper dose is neglected and a seizure or vertigo occurs after six months, all the benefits of the course are lost and it will have to be commenced over again. Pregnancy is no contraindication to its continuance, nor a slight, transient, intercurrent affection. Charcot's method of administration is followed, increasing the dose by 1 gm. a week for three weeks and then diminishing at the same rate for three more, and then recommencing. In women the periods should range for four weeks, with the maximum corresponding to the menstrual period. The patient takes 3, 4 or 5 gm. of the bromids during three weeks and is then seen again or not until the end of the sixth week. The condition then gives an indication of the tolerance for the drug and suggests an increase or decrease of the maximum. Children frequently tolerate as much as an adult. In all cases the prompt determination of the adequate dose and its maintenance at this point, with treatment for two and one-half years, are the main points, commencing to diminish the dose about a year after the last symptoms.

Centralblatt f. Chirurgie (Leipsic), September 29 and October 6.

Indirect Sounding. Kuhn.—Four years have passed since Kuhn first described his sounds made of a spirally-wound wire, inside which a stiff sound is introduced. The spiral prevents injury while the stiff sound affords the desired information. Experience has confirmed the value of this combination, and he now relates instances in which a correct diagnosis had been impossible until this indirect sounding was resorted to. It has all the advantages of both a soft and a stiff sound, while its worm-like and rotating movements enable it to discover an excentrically located lumen. It is peculiarly adapted to the exploration of the biliary passages and fistulæ.

October 6.

Successful Disinfection of the Hands. J. Hahn.—While others have been laboring to evolve a method of thorough disinfection of the hands and proclaiming the failure of the usual methods, Hahn has been quietly following the technique which he described in the *Monatsschrift f. Geb. u. Gyn.*, v. 5, nearly four years ago. It attracted no notice at the time nor since, and yet it has proved unfailingly reliable in his experience, as a series of 136 operations without a single instance of even the slightest operative infection fully demonstrates. The hands and forearms are scrubbed four times in succession with soft soap and fresh water at 40 C. They are then washed for four minutes in 1 per thousand alcohol solution of sublimate and the forearms left wet. The hands are then rinsed in 1 to 2 per thousand aqueous solution of sublimate until all the alcohol is removed and dipped again into the sublimate-alcohol for a minute or two before and after the blouse is put on. Bacteriologic and other tests indicate that this method combines all that can be expected from disinfection of the hands.

Dermatologisches Centralblatt (Berlin), September.

Iodin Parotitis. K. Groen.—A young man under treatment for syphilis at various intervals took potassium iodid at least sixteen times. Eight times he reacted with an acute swelling of the parotid gland. Quinin had no effect in preventing the parotitis, but potassium bromid administered with the iodid on one occasion possibly co-operated in preventing the glandular lesion.

Dermatologische Zeitschrift (Berlin), September.

Urethral Pouch in Boys. J. V. Bokay.—The fourteen cases of true urethral diverticula that have been observed in boys impress the benefits of prompt surgical intervention in these cases. In six the operation resulted in a complete cure, and in two others a small fistula persisted. In the three personal cases described by Bokay the diverticulum was accompanied by severe bladder and kidney affections, and all terminated fatally. One was 2 weeks, the other 3 years old. The pouch had been noted in infancy in six cases. In only 3 out of the 14 was there a perceptible valve-formation or stricture to which the development of the diverticulum could be ascribed. Consequently Bokay is inclined to attribute all the cases to congenital malformation, although it may not have caused disturbance, nor even attracted the patient's attention for years. The treatment consisted in slitting the urethra and cutting an ellipse out of the pouch, suturing en masse or in tiers, or packing the cavity with gauze and allowing the wound to heal by granulation. He also describes a single case of a false pouch due to a calculus.

Lupus Extirpation. E. Lang.—In this review of the 85 cases of lupus operated on by Lang, in only 58 could the results be followed to date after an interval of more than six months. Of these 39 have had no relapse during the six months to seven years since the operation: 19 have had slight tion. A bacillus is also constantly found resembling the pseudo-diphtheria micro-organism. In times of epidemic diphtheria tonsillotomy should be postponed.

October 4.

Movement Phenomenon in Mouth and Throat Sign of Insufficiency of the Aortic Valves. H. Schlesinger.—The sign described consists in the pulsation and rhythmic movement or displacements observed in the portions of the mouth and throat most exposed to the influence of the aortic pulsation, especially the tonsils and root of the tongue.

Gazzetta Degli Ospedali (Milan), September 16, 23 and 30.

Cutaneous Oxyuriasis. P. Barbagallo.—The invasion of the skin around the anus by the oxyuris has been reported three times. The writer adds a fourth case in which the parasites colonized all over the region, favored by the scratching of the patient to relieve the pruritus caused by the worms.

Pyloroplasty. G. B. Segale.—To obviate some of the defects of gastroenterostomy while securing its advantages, Segale proposes an operation in case of stenosis of the pylorus which consists in a curved incision extending longitudinally above and below the constriction. The two lips of the incision are then pulled in opposite directions and the constriction twisted at the same time. The wound is then sutured in this position. The operation has been done twice on man and with eminently satisfactory results in each case.

Large Malarial Spleen Reduced With Iodin. V. Piga.—A syringeful of one part iodin to two parts potassium iodid in 100 parts water was injected hypodermically in the left hypochondrium in a severe case of malarial infection and much enlarged spleen. Ten injections were made in all and the spleen gradually returned to normal.

September 23.

Success of Salophen in Sciatica. A. Ghetti.—Two rebellious cases of sciatica in women 37 and 50 years of age were relieved of pain with six hypodermic injections of salophen in alkalinized water. Thirty injections induced a permanent cure.

Treatment of Cutaneous Tuberculosis With Guaiacol. G. B. Burzhagi.—The surface of the cutaneous tuberculous lesion in the case described was painted with a mixture of guaiacol and olive-oil, each 40 gm. in 10 gm. of 60 per cent. alcohol. The ulcerations were located on the leg and were first evacuated and scraped. Cicatrization was complete in twenty-eight days of the guaiacol treatment.

Best Method of Using Gelatin for Hemorrhage. F. S. Rocchi.—Experimental tests with gelatin testify that the most effective means of administering gelatin to arrest hemorrhage is by the rectum, injecting 50 gm. of a hot 2 per cent. solution. Its action is manifest in five to ten minutes and lasts for six hours. This method obviates dilatation of the cervix in hemorrhagic endometritis and menorrhagia while it is fully as effective as direct local applications.

September 30.

Pneumococcus Conjunctivitis. G. Consalvo.—An epidemic of conjunctivitis was observed by the writer and the pneumococcus found constantly in the secretions. It is a contagious affection, attacking persons of all ages. The acute attack terminates in about ten days. It has a tendency to become chronic, but remains benign and rarely compromises the integrity of the eye.

Grece Medicale (Syra), September.

Resection of the Vagi in Dogs. R. Nicolaides.—A portion of the cervical pneumogastric nerve, 5 cm. long, was resected in three dogs, first on one side and, forty-seven to fifty-seven days later, on the other. Simultaneous bilateral resection kills the animals, but with this interval the disturbances were comparatively slight and the dogs were eating with good appetite in five days, and are still alive, several months later. The number of respirations gradually diminished the day after each operation, but soon returned to the previous condition.

St. Petersburger Medicinische Wochenschrift, September 22.

Operative Treatment of Extroversion of Bladder. E. Graubner.—Extremely satisfactory results were obtained by a Maydl operation on a girl of 16 who suffered from congenital extroversion of the bladder and total incontinence. The ureters were implanted in the sigmoid flexure. Continence is complete; the patient is robust and nothing during the eighteen months since the operation indicates a tendency to ascending pyelonephritis or paralysis of the sphincter ani.

Books and Pamphlets.

Acknowledgement of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review as dictated by their merits, or in the interest of our readers.

A Dictionary of Medical Science.—Containing a Full Explanation of the Various Subjects and Terms of Anatomy, Physiology, Medical Chemistry, Pharmacy, Pharmacology, Therapeutics, Medicine, Hygiene, Dietetics, Pathology, Bacteriology, Surgery, Ophthalmology, Otology, Laryngology, Dermatology, Gynecology, Obstetrics, Pediatrics, Medical Jurisprudence, Dentistry, Veterinary Science, etc. By Robley Dunglison, M.D., LL.D., Late Professor of Institutes of Medicine and Medical Jurisprudence in the Jefferson Medical College of Philadelphia. Twenty-second Edition, with Appendix, Thoroughly Revised and Greatly Enlarged, and with the Pronunciation, Accentuation, and Derivations of the Terms, by Richard J. Dunglison, A.M., M.D. Cloth. Pp. 1376. Price, $7.00. Philadelphia and New York: Lea Brothers & Co. 1900.

An American Text-Book of Physiology. By Henry P. Bowditch, M.D.; John G. Curtis, M.D.; Henry H. Donaldson, Ph.D.; W. H. Howell, Ph.D., M.D.; Frederic S. Lee, Ph.D.; Warren P. Lombard, M.D.; Graham Lusk, Ph.D., F. R. S., (Edin.); W. T. Porter, M.D.; Edward T. Reichert, M.D.; Henry Sewall, Ph.D., M.D. Edited by William H. Howell, Ph. D., M.D., Professor of Physiology in the Johns Hopkins University, Baltimore, Md. Second Edition, Revised. Vol. I. Blood, Lymph, and Circulation; Secretion, Digestion, and Nutrition; Respiration and Animal Heat; Chemistry of the Body. Cloth. Pp. 598. Price, $3.00. Philadelphia: W. B. Saunders & Co. 1900.

A Manual of Syphilis and the Venereal Diseases. By James Nevins Hyde, A.M., M.D., Professor of Skin, Genito-Urinary, and Venereal Diseases, Rush Medical College, Chicago, and Frank Hugh Montgomery, M.D., Associate Professor of Skin, Genito-Urinary, and Venereal Diseases, Rush Medical College, Chicago. Second Edition, Revised and Enlarged. With 58 Illustrations in the Text, and 19 full-page Lithographic Plates. Cloth. Pp. 594. Price, $4.00. Philadelphia: W. B. Saunders & Co. 1900.

A Book of Detachable Diet Lists. For Albuminuria, Anemia, and Debility. Constipation, Diabetes, Diarrhea, Dyspepsia, Fevers, Gout or Uric Acid Diathesis. Obesity, Tuberculosis, and a Sick-Room Dietary; Compiled by Jerome B. Thomas, Jr., A.B., M.D.; Instructor in Materia Medica, Long Island College Hospital. Second Edition, Revised. Cloth. Price, $1.25. Philadelphia: W. B. Saunders. 1900.

Twentieth Century Practice. An International Encyclopedia of Modern Medical Science by Leading Authorities of Europe and America. Edited by Thomas L. Stedman, M. D., New York City. In Twenty Volumes. Volume XX. Tuberculosis, Yellow Fever, and Miscellaneous, General Index. Cloth, Pp. 906. Price, $5.00. New York: William Wood & Co. 1900.

Rhinology, Laryngology and Otology and Their Significance in General Medicine. By E. P. Friedrich, M. D., Privatdocent at the University of Leipzig. Authorized Translation from the German. Edited by H. Holbrook Curtis, M. D., Consulting Surgeon to the New York Nose and Throat Hospital. Cloth. Pp. 348. Price, $2.50. Philadelphia and London: W. B. Saunders & Co. 1900.

Practical Manual of Diseases of Women and Uterine Therapeutics for Students and Practitioners. By H. Macnaughton-Jones, M.D., M.Ch., Master of Obstetrics (Honoris Causa), Royal University of Ireland. Eighth Edition, Revised and Enlarged with 640 Illustrations and 28 Plates. Cloth. Pp. 935. Price, $5.00. New York: William Wood & Co. 1900.

Text-Book Upon the Pathologic Bacteria for Students of Medicine and Physicians. By Joseph McFarland, M.D., Professor of Pathology in the Medico-Chirurgical College, Philadelphia. With 142 Illustrations. Third Edition, Revised and Enlarged. Cloth. Pp. 621. Price, $3.25. Philadelphia: W. B. Saunders & Co. 1900.

Heart Diseases in Childhood and Youth. By Charles W. Chapman, M.D., Durh., M.R.C.P., Lond., Physician to the National Hospital for Diseases of the Heart. With an Introduction by Sir Samuel Wilks, Bart., M.D., F.R.S., Physician Extraordinary to H. M. the Queen. Cloth. Pp. 98. Price, 3s. 6d. London: The Med. Publishing Co., Ltd.

A Text-Book of the Diseases of Women. By Henry J. Garrigues, A.M., M.D., Gynecologist to St. Mark's Hospital in New York City. With 367 Illustrations. Third Edition, Thoroughly Revised. Cloth. Pp. 756. Price, $4.50. Philadelphia: W. B. Saunders & Co. 1900.

Bacteriology and Surgical Technique for Nurses. By Emily M. A. Stoney, Superintendent of the Training School for Nurses, St. Anthony's Hospital, Rock Island, Ill. Illustrated. Cloth. Pp. 190. Price, $1.25: W. B. Saunders & Co. 1900.

A Short Practice of Gynecology. By Henry Jellett, B.A., M.D., B.Ch., B.A.O. (Dublin University), F.R.C.P.I., L.M., Late Assistant Master, Rotunda Hospital. With 125 Illustrations. Cloth. Pp. 436. Price, $2.63. London: J. & A. Churchill. Philadelphia: P. Blakiston's Son & Co.

The Attainment of Womanly Beauty of Form and Features. The Cultivation of Personal Beauty Based on Hygiene and Health Culture by Twenty Physicians and Specialists. Edited by Albert Turner. Cloth. Pp. 256. Price, $1.00. New York: Health-Culture Co.

Ulceration of the Bladder: Simple, Tuberculous, and Malignant. By E. Hurry Fenwick, F. R. C. S., Surgeon of the London Hospital. Cloth. Pp. 85. Price, $1.75. London: J. & A. Churchill. Philadelphia: P. Blakiston's Son & Co.

Hernia: Its Etiology, Symptoms and Treatment. By W. McAdam Eccles, M. S. (Lond.), F.R.C.S. (Eng.), Assistant Surgeon West London Hospital. Cloth. Pp. 231. Price, $2.50. New York: Wm. Wood & Co. 1900.

Transactions of the Colorado State Medical Society. Thirtieth Annual Convention. By-laws and List of Members. Cloth. Pp. 446. Denver: Published for the Society.

PAMPHLETS.

A Simple Operation for Divergent Strabismus. Change of Refraction from Compound Hypermetropic Astigmatism to Compound Myopic Astigmatism—Glaucoma. Implantation of a Glass Ball Into the Orbital Cavity. Iritis: Its Treatment. Strabismus: Mules' Operation. Epiphora; Lachrymal Abscess; Congenital Absence of Lachrymal Punctae; Stricture of the Lachrymal Duct. By L. Webster Fox, A.M., M.D., Philadelphia. Reprints.

A Case of Traumatic Varix of the Orbit in Which Ligation of the Left Common Carotid Artery Was Successfully Performed. A Clinical and Histologic Study of a Case of Melanotic Sarcoma of the Choroid Presenting Symptoms of Secondary Glaucoma. Clinical Study of the Ocular Symptoms Found in So-called Posterior Spinal Sclerosis. Gumma of the Iris and Ciliary Body. Recovery With Normal Vision. Recovery of Vision by an Iridectomy; With Removal of Lens-Debris in a Case of Blindness of More Than Thirteen Years' Duration. By Charles A. Oliver, A.M., M.D., Philadelphia. Reprints.

Cataphoresis in Trachoma. Report of a Case of Double Mastoiditis—Operation—Recovery. By Geo. F. Keiper, M.D., Lafayette, Ind. Reprints.

Compound Fractures. Excision of High Rectal Carcinoma Without Sacral Resection. By N. Senn, Ph.D., LL.D., Chicago. Reprints.

Malformation of the Uterus. By Frank T. Andrews, M.D., Chicago. Reprinted from Amer. Gyn. and Obs. Jour.

Myotherapy. By Nathan Herman, M.D., Baltimore, Md. Reprinted from Md. Med. Jour.

Studies in Pancreatic Digestion. Made with Pancreatic Juice. By B. K. Rachford, M.D., Professor of Therapeutics, Medical College of Ohio. Paper. Pp. 99. Cincinnati, Ohio: Cincinnati Lancet Press. 1900.

Special Classes for Mentally Defective School Children. By Walter Channing, M.D. Reprinted from Charities Review.

Successful Treatment of Variola and Improved Method of Vaccination-Vaccinoid. By V. Lehmann, M.D., Hahnville P. O., La. Reprinted from N. O. Med. and Surg. Jour.

Summarized Report of Fourteen Years' Work in Abdominal Surgery. By F. F. Lawrence, M.D., D.Sc., Columbus, Ohio. Paper. Pp. 11.

The Comparative Value of Enucleation and the Operations Which Have Been Substituted for It. By G. E. de Schweinitz, A.M., M.D., Philadelphia. Paper. Pp. 44.

Transactions of the Florida Medical Association for the Year 1900. Held at Orlando, Fla., April 11 and 12. Paper. Pp. 113. Jacksonville. Fla.: East Florida Printing Co. 1900.

Change of Address.

James Alderson, 562 Julien Ave., to 135 Delphi St., Dubuque, Iowa.
R. Bellamy, Newport, R. I., to 35 W. 31st St., New York City.
A. H. Barr, 1265 Esplanade Ave.. to 2722 St. Charles Ave., New Orleans, La.
E. M. Brewer, Rankin, to 103 W. Front St., Bloomington, Ill.
W. H. Boone, Catlin, to Sidell, Ill.
E. W. Baum, 1129 Lill Ave., Chicago, to Morocco, Ind.
C. E. Case, Tacoma, to Seattle, Wash.
J. W. McCready, 81 E. 116th St., New York City, to Sewickley, Pa.
C. C. Carroll, 21 E. 24th St., to 251 5th Ave., New York City.
J. S. Conway, Streator, Ill., to Joplin, Mo.
J. B. Dickinson, Jersey, O., to Cobham, Va.
M. Dovidoff, 214. to 249 E. Broadway, New York City.
F. M. Dyer, 457 Cumberland St., to 686 Congress St., Portland, Maine.
M. A. Duncan, Buxton, to Chanute, Kan.
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J. R. Garner, 302 2nd Ave., to 7 Livingston Pl., New York City.
T. W. Greenley, Loon Lake, to Saranac Lake, N. Y.
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J. A. Hart, Geneva, N. Y., to Colorado Springs, Colo.
F. Hilts, Humbolt, Kan., to City Hospital, Kansas City, Mo.
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S. R. Herring, Ingalls, to Warren, Ark.
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P. L. Jermane, Grandin, Mo., to Holton, Kan.
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J. E. King, Centreville, to 24 S. 9th St., Richmond, Ind.
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E. S. McKee, 639 W. 7th St., to 2112 Grand St., Cincinnati, O.
P. J. McCaffrey, 1506 Superior St., to 215 Lake St., Cleveland, O.
E. W. Meis, Dyersville, to Holy Cross, Iowa.
J. W. Montgomery, Landes, to Toledo, Ill.
M. H. Mack, 3000, to 3505 Indiana Ave., Chicago.
C. M. Nichols, Philadelphia, Pa., to 29 N. Ohio Ave., Atlantic City, N. J.
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A. J. Strange, Edgard, to 841 N. Rampart St., New Orleans, La.
W. E. Troxell, Ehrenfeld, to Lilly, Pa.
A. C. VanDuyn, 52nd and Cottage Grove, to 4760 Champlain Ave., Chicago.
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J. H. Wood, Champaign. Ill., to Hammond, La.
C. E. Weber, 4304 Grand Boul., to 155 E. 25th St., Chicago.
W. M. Woods, Denver, to Aylmer, Colo.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Oct. 4 to 10, 1900, inclusive:

Charles N. Barney, acting asst.-surgeon, member of a board at Fort Monroe, Va., for the examination of officers for promotion, vice Leigh A. Fuller, lieutenant and asst.-surgeon, U. S. A., relieved.

William C. Borden, captain and asst.-surgeon, U. S. A., member of a board at Washington, D. C., to examine medical officers of the army for promotion, vice E. L. Munson, captain and asst.-surgeon, U. S. A., relieved.

Harry A. Cossitt, acting asst.-surgeon, previous orders, directing him to proceed from Morris Plains, N. J., to San Francisco, Cal., for assignment with troops going on foreign service, revoked.

James H. Hysell, major and surgeon, U. S. V., former orders revoked; he will report to the commanding officer, Department of Eastern Cuba, for duty as chief surgeon of that department, to relieve Major Lawrence C. Carr, surgeon U. S. V.

Burke L. Johnson, acting asst.-surgeon, relieved from duty in the division of the Philippines to report to the Surgeon-General at Washington, D. C., for instructions; leave of absence granted.

Frank R. Keefer, captain and asst.-surgeon, U. S. A., member of a board at Fort Monroe, Va., for the examination of officers for promotion, vice R. M. O'Reilly, lieutenant-colonel and deputy surgeon-general, U. S. A., relieved.

Louis S. Tesson, major and surgeon, U. S. A., to report to the commanding general, Department of the Columbia, for duty as chief surgeon of the department in addition to his duties as surgeon, Vancouver Barracks, Wash.

William R. Van Tuyl, acting asst.-surgeon, from Jefferson Barracks, Mo., to post duty at Fort Thomas, Ky.

Nelson W. Wilson, acting asst.-surgeon, leave of absence granted.

A. A. Woodhull, lieut.-col. and deputy surgeon-general, U. S. A., leave of absence granted.

Navy Changes.

Changes in the Medical Corps of the U. S. Navy for the week ending Oct. 13, 1900:

P. A. Surgeon T. W. Richards, detached from the *Indiana* and ordered to the *Alabama*, Oct. 16.

P. A. Surgeon L. Morris, ordered to the Naval Academy.

Asst.-Surgeon D. H. Morgan, detached from the *Vermont* and ordered to the Pensacola navy yard.

Asst.-Surgeon J. A. Murphy, detached from the Pensacola navy yard and ordered to the Asiatic station for duty on the *Don Juan De Austria*, to report at San Francisco, Cal., Oct. 30, for passage on the *Solace*.

Asst.-Surgeon H. H. Haas, detached from the *Don Juan De Austria*, and ordered home and to wait orders.

Orders Issued by Commander-in-Chief of Asiatic Station.

P. A. Surgeon G. A. Lung, detached from the *Monocacy* and ordered to the Cavite naval station.

Asst.-Surgeon J. C. Thompson, detached from the *Monocacy* and ordered to the Cavite naval station.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service, for the seven days ending Oct 11, 1900:

P. A. Surgeon W. G. Stimpson, granted fifteen days' extension of leave of absence.

Asst.-Surgeon W. C. Hobdy, granted leave of absence for one month from Oct. 3.

Asst.-Surgeon G. M. Corput, relieved from duty at Mullet Key Detention Camp, and directed to proceed to St. Louis, Mo., and report to the medical officer in command for duty and assignment to quarters.

A. A. Surgeon S B. Hunter, granted leave of absence for seven days.

A. A. Surgeon J. C. Rodman, granted leave of absence for seven days.

Hospital Steward S. W. Richardson, upon expiration of leave of absence, to rejoin station at St. Louis, Mo.

Surgeon G. W. Stoner, granted leave of absence for seven days.

Surgeon C. E. Banks, four days of leave granted by department letter of June 5, revoked.

Surgeon J. H. White, granted leave of absence for one month.

Surgeon R. M. Woodward, detailed to represent the service at the meeting of the American Public Health Association, at Indianapolis, Ind., Oct. 22-26.

P. A. Surgeon J. O. Cobb, to proceed to El Paso, Texas, on special temporary duty.

Asst.-Surgeon H. C. Mathewson, relieved from duty at Philadelphia, Pa., and directed to proceed to San Juan, Porto Rico, and assume command of the service, relieving Asst.-Surgeon C. H. Lavinder.

Asst.-Surgeon C. H. Lavinder, on being relieved from duty at San Juan, Porto Rico, to proceed to Washington, D. C., for orders.

Asst.-Surgeon R. L. Wilson, relieved from duty at San Francisco, Cal., and directed to proceed to Honolulu, H. I., and report to Surgeon Carmichael for duty.

A. A. Surgeon F. M. Clarke, granted leave of absence for twenty days from Oct. 15.

A. A. Surgeon F. W. Goldsborough, granted leave of absence for one day.

A. A. Surgeon Fay Tuttle. granted leave of absence for thirty days from Oct. 24.

Hospital Steward C. C. Allen, granted leave of absence for six days from Oct. 22.

Hospital Steward F. A. Southard, granted leave of absence for fifteen days from Nov. 5.

APPOINTMENT.

Harrington Marr, of Tennessee, appointed acting asst.-surgeon.

RESIGNATIONS.

Asst.-Surgeon Elmer R. Edson, Sept. 22, 1900.

Acting Asst.-Surgeon A. G. Greenstreet, Sept. 30, 1900.

Hospital Steward C. F. Crowley, Sept. 4, 1900.

Acting Asst.-Surgeon Richard Douglas, Oct. 7, 1900.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Oct. 12, 1900:

SMALLPOX—UNITED STATES.

Alaska: Nome, Oct 7, 1 case (in barracks).

Kansas: Wichita, Sept. 29-Oct. 6, 1 case.

Ohio: Cleveland, Sept. 29-Oct. 6, 10 cases.

Pennsylvania: Philadelphia, Sept. 29-Oct. 6, 4 cases.

SMALLPOX—FOREIGN.

Austria: Prague, Sept. 8-15, 1 case.

Brazil: Pernambuco, Aug. 24-31, 4 deaths.

England: Liverpool, Sept. 15-22, 1 case; London, Sept. 15-22, 2 cases.

France: Paris, Sept. 15-22, 3 deaths; St. Etienne, Sept. 1-15, 1 case, 1 death.

Germany: Koenigsberg, Sept. 8-15, 2 cases.

Mexico: Vera Cruz, Sept. 22-29, 1 death.

Russia: Odessa, Sept. 15-22, 11 cases, 2 deaths; St. Petersburg, Sept. 8-15, 9 cases, 5 deaths.

Scotland: Glasgow, Sept. 21-28, 22 cases, 3 deaths.

Yukon Territory: Dawson, Sept. 8, present.

YELLOW FEVER.

Colombia: Barranquilla, Sept. 16-23, 1 death; Cartagena, Sept. 1-14, 3 cases, 3 deaths.

Cuba: Havana, Sept. 22-29, 19 deaths.

Mexico: Vera Cruz, Sept. 22-29, 10 deaths.

PLAGUE.

Paraguay: Asuncion, July 21-28, 2 deaths.

Scotland: Glasgow, Sept. 15-22, 3 cases, 2 deaths.

Wales: Llandoff, Oct. 9, 1 death (imported from Rosario).

CHOLERA.

Straits Settlements: Singapore, Aug. 11-25, 1 death.

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